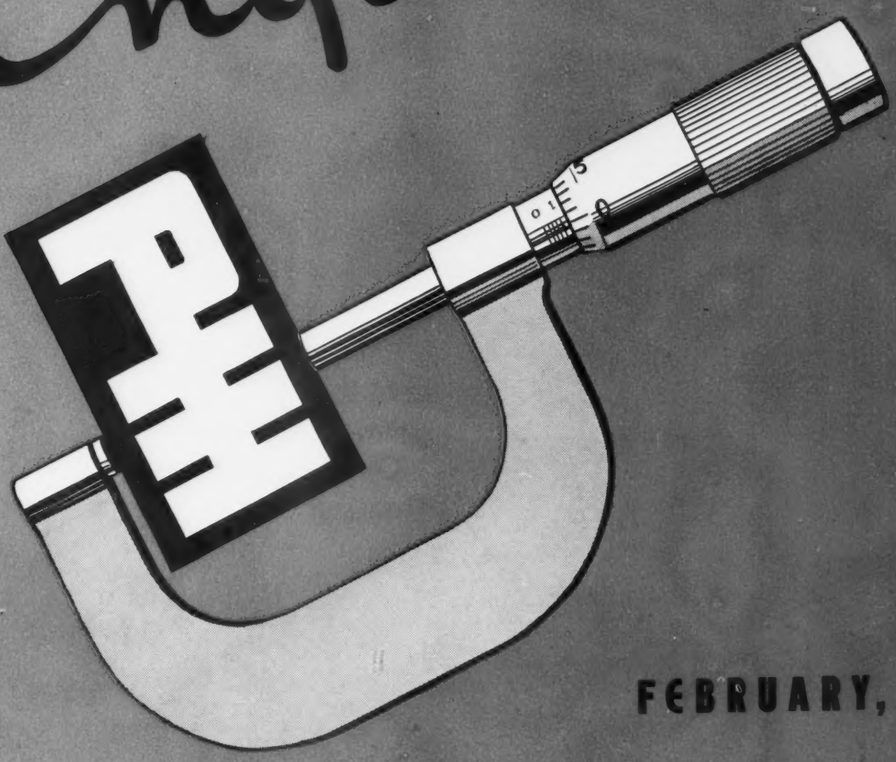
Printing Equipment Engineer



FEBRUARY, 1940

A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

Simplify Food Store Composition Through Linotype Keyboarding

This new booklet covers fully the technique of combining display figures and words with small type, the first problem in keyboarding food store advertising. It includes 91 of the most frequently used combinations, and explains how every one of them can be set on full measure slugs without a single cut-in. Also detailed mold information and suggestions for adapting different faces to the 91 styles. It will be mailed without charge to printing executives. Just fill in coupon.

Linotype Memphis Extra Bold Condensed and Spartan Black, Heavy and Medium

MERGENTHALER LINOTYPE COMPANY
Publicity Division
29 Ryerson Street, Brooklyn, New York

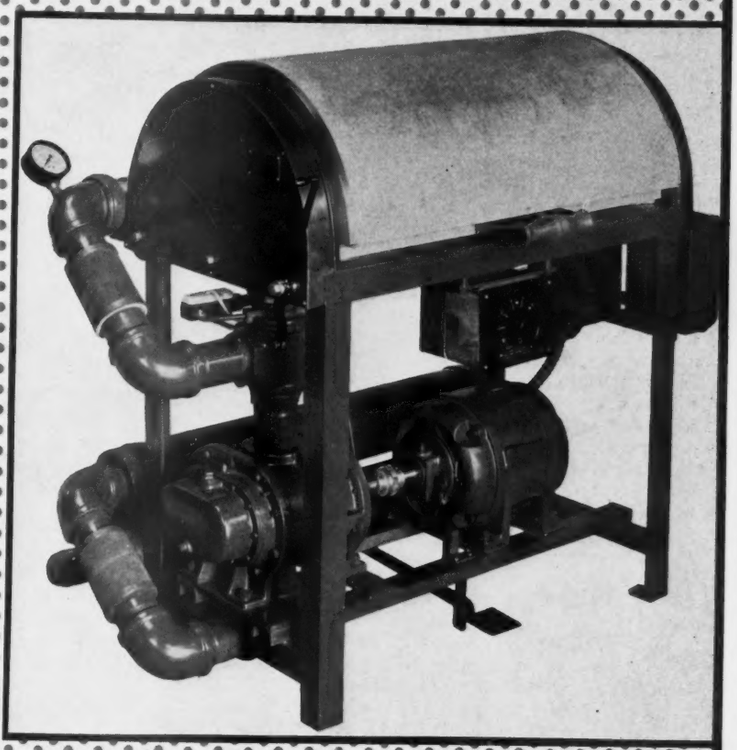
Yes, I'd like to have a copy of "FOOD STORE ADS from the Linotype Keyboard."

Name .....

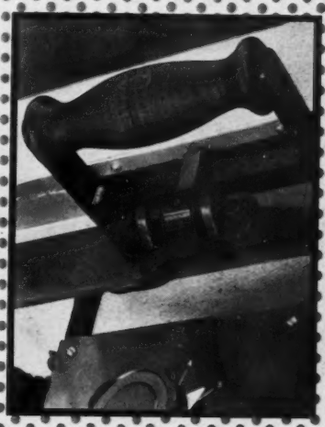
Plant .....

Address .....

Stahi JUNIOR FORMER



THE MACHINE THAT ENABLES THE SMALLER CITY NEWSPAPER TO ENJOY UNIFORM CASTING LEVELS—REFLECTING BETTER QUALITY PRINTING—AND SAVING VALUABLE PRODUCTION TIME WITH SPECIAL NEW IMPROVEMENTS



NEW VACUUM CHAMBER LATCH

A Recent Valuable Improvement effecting closer and more positive lock-up between Base Heater and Vacuum Chamber creating Better Electric Baking of dry-mats plus Further Improved Casting Levels.

STA-HI CORPORATION
1020 Crocker Street, Los Angeles, California

ANALYSIS *of a successful printing plant executive — "Know your stuff and put yourself in other fellow's place."*

By STAFF WRITER

AFTER analyzing the outstanding characteristics of a number of printing plant production and mechanical executives we have culled from the assorted personalities the desirable characteristics which seem to be predominant in each. As a result of this analysis, we have made up below a composite printing plant executive whom we assert will more than make up the ideal executive and who without doubt will succeed as a practical executive in any plant in this country. This is a rather strong statement, but we feel justified in "going out on the well known limb."

If you expect to get any aid or comfort out of our espousal of the hard-boiled type of executive who sacrifices his plant administration arrogantly to minimize costs, you will be disappointed. After all, human nature is the dominant problem in printing plant administration.

One printing plant mechanical executive we have in mind operated successfully for a long time and held coveted positions in the larger cities in the United States, Glasgow, Scotland, and with the London *Times*. He enjoyed the advantages of acknowledged outstanding ability, cleverness and resourcefulness, coupled with a personality which held the friendship and respect of his superiors and his assistants. We have seen him perform in routine and trying emergencies, as cool as ice under fire—always in the five thousand dollar or-better per year class as an executive. What many would consider hard work was always play for him. In his masterful way all obstacles were but footballs to be kicked where he wanted them to go and when called upon he never failed to kick goal.

His dual slogan might be stated thus: "Know your stuff and put yourself in the other fellow's place." During his apprentice days he slaved unstintedly to master his trade, working in numerous plants in many cities to broaden his knowledge, always determined to know his vocation so well that none could excel him in his chosen work. Complete mastery of his trade was his one ambition in youth and he never swerved from this purpose except for reasonable relaxation. Time enough to play after he had reached the top, was his conviction.

After he felt that he knew his stuff, he began to go places. Putting himself in his employer's place, he knew what was expected from him as the employer's trusted liaison officer with the working force. His second responsibility was to lead and direct those under him. Again putting himself in the other fellow's place, he recalled his own experience as an apprentice and journeyman under foremen for whom he had worked. While never a church-goer, he stated his system of dealing with his assistants and his principals or superiors is expressed in the Golden Rule or in the more modern "put yourself in the other fellow's place."

Let's refer to this executive as Bill for convenience. Bill summarized as among the prime qualities of an executive thorough preparation and training. These can be acquired only by working in a number of plants doing various lines of work. A wizard in a color house may be a flop in a book-printing plant or an executive of value in both of these lines might fall down in a leading commercial plant handling an endless variety of work. Broad experience as apprentice and journeyman and assistant foreman, other things being equal, is a major factor in producing a capable executive.

In the preparatory years, it pays to concentrate on the job in hand. Devote not only your working hours but as many evenings as possible (with reasonable time out for exercise and relaxation) to meeting other men from whom you can learn something about your chosen work—men in other divisions of the industry than your own.

The important items in the production end of the printing industry are paper, ink, rollers, forms, presses, makeready, presswork and atmospheric conditions, which definitely affect paper, ink, rollers, forms, makeready, presswork, forwarding, bindery operations and delivery. These are vital subjects an executive must master since production is a prime requirement, be the quality standard of the house high or low.

Many salesmen through meeting assorted types of executives in their travels have acquired an extensive fund of valuable information. Bill says it is reasonable that a seasoned ink man should learn more about inks from the problems of hundreds of printing plants than any executive could pick up in a few plants and so he always had time to talk with a really well informed salesman. He found time to read the trade periodicals and other available matter pertaining to his work, in which he often found valuable suggestions which he assimilated and applied, often with improvement. Master mechanic, he always watched the new patents for, although a practical soul, he knew that dreamers always lead the way to better ways of doing things. We trust we have in this brief outline stressed the importance Bill placed on thorough preparation, as the absolutely necessary foundation for performance.

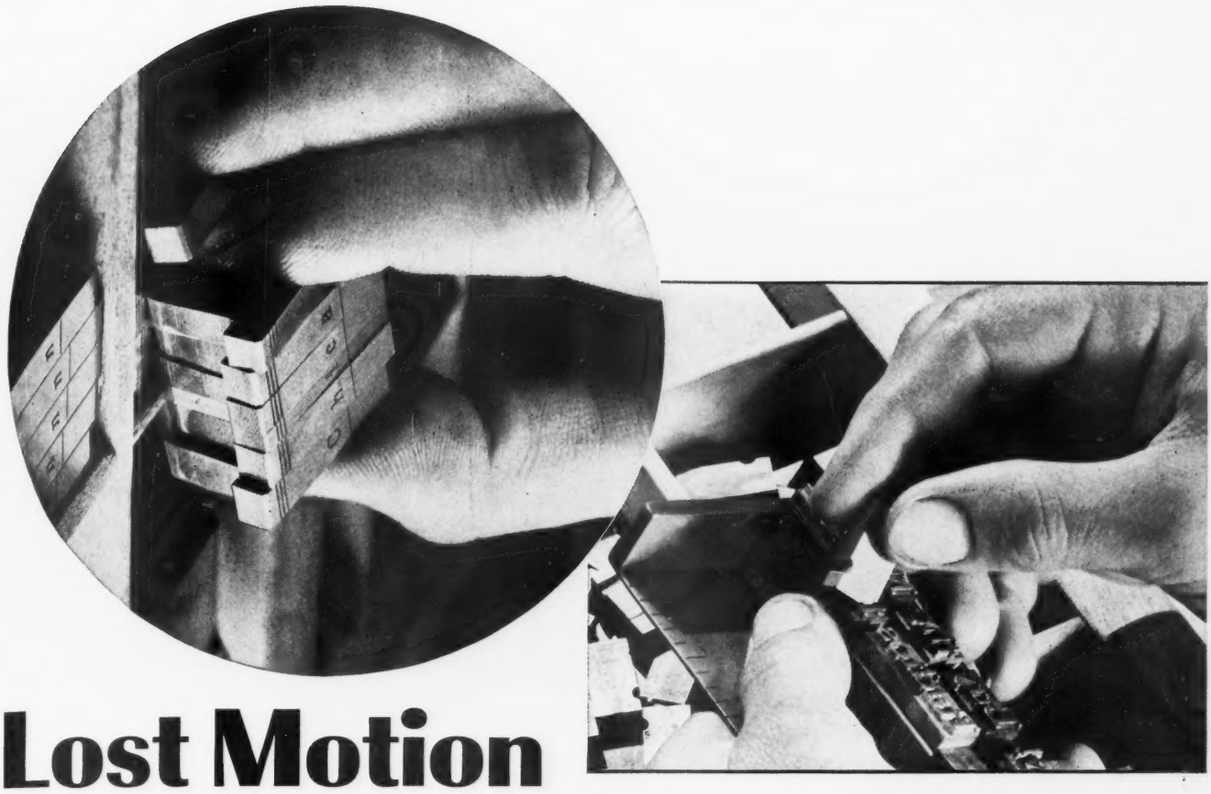
When it came to discussing performance, Bill ranked organization first. A place for everything and every man under him and every man and thing where it best fitted into his program. While he could do anything he asked of others and actually did so on occasions, he assumed that every one he hired was qualified. He freely shared his knowledge without reservations, believing that the more every worker knew the better and easier it was for all concerned, from the chief down. All hands were present to make money for the firm, their present and future prosperity depending on it. If Bill could make every man under him as capable as himself, so much the better. They all knew he gave them a mark at which to aim.

Bill had a way about him that made it easy for beginners. In an undefinable way the new man felt that he was working under a capable leader who was still a member of the crew, responsible for direction but satisfied that each subordinate was capable and could be trusted to do his share. Familiarity with Bill never bred contempt. He radiated confidence and power peculiar to one who really knows his stuff. With his broad knowledge he was tolerant of variations from the system of work which his wide experience and appraising judgment had found best, so he was not a hypercritical martinet. Instead, he permitted each worker to operate in the manner in which he had been trained as long as he obtained results in the allotted time. If too much time was being spent on the task, in a friendly chat Bill would suggest a better method, compare it with the faulty one without being arbitrary and pass on to something elsewhere. None but the unreasonable failed to follow the suggestion.

Knowing the variations in the human element and realizing that it is human to err, Bill kept a sharp eye on new workers until they proved they were capable and reliable, guiding and checking on them in such an easy, friendly way that hostility was never aroused. He realized that every new task confronting beginners is trying and some respond to the emergency better than others, although equally capable as mechanics. Bill made allowance for temperamental differences. By putting himself in the other fellow's place he knew his weakness and failings and could help him without hurting his feelings or inducing the inferiority complex. Bill maintained that if a man can be kept in the state of mind that he cannot be licked, the odds are that he never will be licked.

Bill's system would be a story for another day so it will be passed here. He played no favorites, grading the men in his mind, strictly on performance and choices for promotion or recommenda-

(*Continued on Page 40*)



Lost Motion is Lost Profit

A time study in close detail of the operations required in setting single types as compared with Ludlow composition brings out facts which are often surprising.

In setting single types, the compositor must pick up each character separately from a jumbled pile, turn the nick and face of each into position, and carry it to the stick. A seven-letter word, for example, requires that seven individual pieces be picked up one by one and turned into position, and that seven different trips be made back and forth between case and stick.

The Ludlow line-composing operation is quite different. The broad, flat matrices are "gathered" —six or seven in a group—in continuous travel directly from one compartment to another, and then transferred to the stick at one time. The operation can best be described as that of single type distribution in reverse; in fact, Ludlow matrices can generally be gathered as rapidly as single types can be distributed. The time-savings in this, and in spacing and justifying lines, coupled with the recognized economies of all-slug make-up and the many other Ludlow operation features all add up to consequential savings in production cost.

Ludlow offers both economy and a definite improvement in typographic quality—both important factors in profitable newspaper publication. Let us send you complete details regarding these economy and quality-producing features.

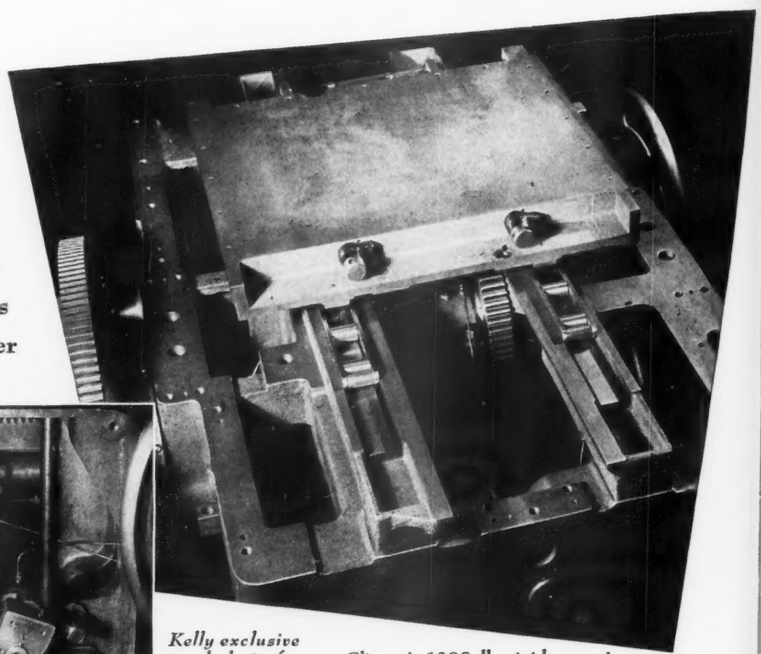
Ludlow Typograph Company 2032 Clybourn Avenue, Chicago, Ill.

Set in Ludlow Radiant Heavy and Radiant Medium

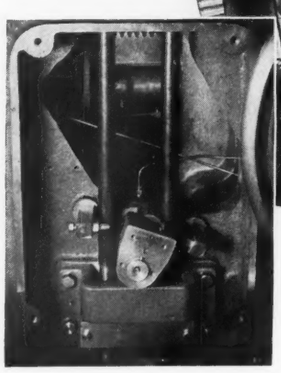
Extra weight for QUALITY *and* SPEED

with the KELLY CLIPPER

Maybe you get either quality *or* speed with your present equipment . . . but you can get *both at the same time* on the rigid Kelly Clipper! The Clipper weighs 4620 pounds . . . more than any other press of its size . . . minimizing vibration at higher press speeds, preserving make-ready and position, eliminating unexpected shutdowns and "nursing." This extra Clipper weight means more time saved and higher profits throughout a longer press life. Exclusive Kelly toggle device brings the Clipper cylinder down quick, and powerfully for solid, even impressions at speeds up to 5000 an hour. Quick getaway is another production-booster on the Clipper, so is the modern stream feed. Make this simple test. Compare *all* the Clipper's features with those of your present equipment, then refigure your last four or five jobs as if you had a Clipper. The results will show you why this modern press will pay you higher dividends with lower maintenance cost throughout the year! Modernize your plant for profit now. Ask your ATF Salesman for press sheet and details.



Clipper's 1300 lb. rigid, one-piece column. Note rugged bed and tracks



Kelly exclusive toggle device for quick, powerful, even impression

CLIPPER FEATURES:

- ➡ **1. Quick-set Stream Feeder**
- ➡ **2. Accurate Register**
- ➡ **3. Rigidity of Impression**
- ➡ **4. Convenient Access to Cylinder**
- ➡ **5. Easy Access to Form**
- ➡ **6. Adequate Ink Distribution**
- ➡ **7. Positive Delivery**
- ➡ **8. Top Speed 5000 per Hour**
- ➡ **9. Automatic Lubrication**

One Printer says:

"...We think the Clipper is the most remarkable small high-speed press ever built. We are obtaining 4800 hour after hour on 45-lb. stock. The Clipper's rigidity and simplicity have solved pressroom production problems for years to come." *(Name will be furnished on request.)*

Types used: Grayda, Bernhard Modern Bold and Italic, Franklin Gothics

AMERICAN TYPE FOUNDERS

200 ELMORA AVENUE, ELIZABETH, N. J. • *Branches and Agents in Principal Cities*

A TECHNICAL PUBLICATION FOR THE MECHANICAL EXECUTIVE RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELD.

TECHNICAL BOOKS

- ESTIMATING GRAPHS FOR PRINTERS — *By Fred W. Hoch.* Bound in 16-page, 8½ in. by 11 in. size, printed on heavy white paper. Simple, concise method of figuring accurate production costs based on economic industry cost values. Graphs are based on cost values to which is added fair profit before quoting selling prices. $3 per copy, cash with order.
- PHOTOGRAVURE — *By H. Mills Cartwright.* Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.
- TIPS ON PRESSWORK — *By G. C. Cooper.* This pocket size book measures 3½ in. by 5½ in. and contains 111 printed pages, heavy paper cover. Covers standard practices on cylinder and platen presses. Price $1.50, cash with order.
- FIFTH PRODUCTION YEAR BOOK — An encyclopedia or text book about all printing processes and production matters. Invaluable to the mechanical executive and production man. Lots of color. Bound in cloth, silver stamped, 424 pages, 8½ in. by 11¼ in. Price $5, cash with order.
- ENCYCLOPEDIA OF LITHOGRAPHY — *Compiled by Russell L. Miles.* Besides technical information about all details of offset-lith set forth in simple language, this book contains discussions on various phases of offset-lith by well known writers. Bound in blue cloth, gold stamping. Illustrated. Size 6 in. by 9¼ in., 212 pages. Price $4.50 per copy, cash with order.
- ETCH PROOFS — *By J. H. Bartz.* Booklet, approx. 6 in. by 9 in. 40 pages and paper cover. Tells reasons for and how to take reproduction proofs. Price, $2.00, cash with order.
- HANDBOOK FOR PRESSMEN — *By Fred W. Hoch.* Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3 per copy, cash with order.
- THE PRACTICE OF PRESSWORK — *By Craig R. Spicher.* We offer copies to our readers at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed).
- MANUAL OF STEREOTYPING — *By Joseph Goggin.* This 256-page book conveys latest technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.

• ***Send All Orders With Remittance to***

PRINTING EQUIPMENT Engineer

1276 W. Third Street
Cleveland, Ohio

Printing Equipment Engineer

LEADING ARTICLES
FEBRUARY, 1940

Analysis of Successful Executive 2
STAFF WRITER

Gravure By Intaprint Process 11
ADAM HENRI REISER

Measurement of Ink by Inkometer 13
ROBERT F. REED

Santa Ana (Calif.) Register's New Building 16

Equipment and Supplies 18

Lighting Developments 22
R. L. OETTING

Precision in Printing Plant 25
By WILLIAM L. PASSANO

Paper Problems 26
LETTER P. OFFGRAV

Printing Patents Report 27

Variable Speed Collating Table 30
FRANCIS A. WESTBROOK

Cut Rack 37
JOHN W. KNOX

Equipment Sales 38

PRINTING EQUIPMENT *Engineer*, a monthly publication. Vol. 59, No. 5. Published at 1276 West Third St., Cleveland, Ohio. Don Will, Publisher, MacD. Sinclair, Editor. Adam Henri Reiser, Associate Editor. H. P. Taylor, Adv. Manager. Eastern Representative: Russ Birchfield, 509 Fifth Ave., New York, N. Y.; phone VAnderbilt 6-0890. Western Representative: E. P. Bloomster, 232 East Erie St., Chicago; phone SUperior 2444. Copyright 1940 by The Willsea Pub. Co. Subscription price per year, $3.50 in advance in U. S. A. Single copy regular issues, 25c. December Reference Issue $1. June and August Issues, 50c each. Subscriptions in foreign countries, $4.50 in advance, U. S. currency. Printed in U. S. A.

Member Controlled CCA Circulation Audit

Banish "STOP-*and*-GO" *Press Runs with the* AUTOPASTER

Why stop your presses for paper roll changes? The Autopaster makes web splices at full press speed.

The Autopaster splices without slowdown and with important reductions in newsprint waste. Output is increased, running time decreased.

Quality, too, improves when you eliminate "stop-and-go" press runs. A single uniform speed promotes more uniform impression and folding, from the start of the run to the finish. Press-work is accelerated and improved.

You can add Autopaster equipment economically to your existing presses, to save time, money, and trouble. What other investment will give you so much for so little?

Wood Newspaper Machinery Corporation

PLAINFIELD, NEW JERSEY • NEW YORK OFFICE: 501 FIFTH AVENUE

CHAMPION PAPER

To portray men's ideas on sheets of paper, advertisers and printers combine their art and skill with plates, ink, type, and tons of equipment. While paper is largely responsible for the final printing result, it is one thing ready made, available on short notice, in almost any grade and quantity. Good printers everywhere choose Champion paper to help them get that all important good impression. This is the most extensive line of printing papers anywhere available. It includes coated and uncoated grades, envelope, offset, postcard, blanks, and specials, in a wide variety of weights and colors. To get the most out of your printing, use Champion paper, the foundation for good printing.

THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . Over 1,500,000 Pounds a Day

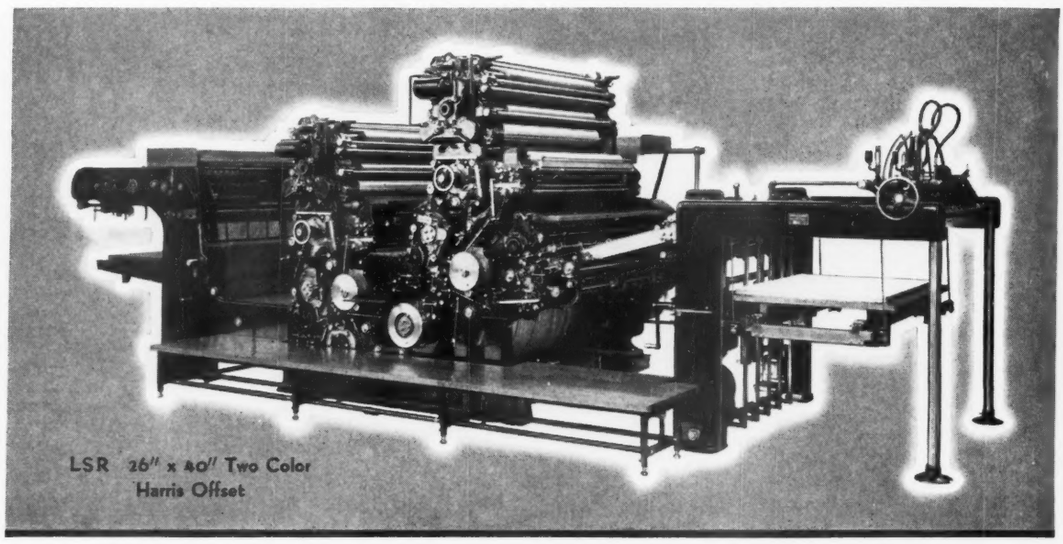
DISTRICT SALES OFFICES

NEW YORK • CHICAGO • PHILADELPHIA • CLEVELAND • BOSTON • ST. LOUIS • CINCINNATI

HARRIS PERFORMANCE THAT REFLECTS CRAFTSMANSHIP

Emphatically

YOU DO PRODUCE QUALITY OFFSET ON A HARRIS . . .



LSR 26" x 40" Two Color Harris Offset

LITHO *Chemicals*

Through research Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

From the start, Harris Presses carry out the pressman's desire for quality. Harris performance anticipates the pressman's desire, and because its design and structure are the result of long experience in Offset Craftsmanship and engineering, the results are a fulfillment of pressroom plans. With Harris Presses you can — most emphatically — produce quality Offset.

Pioneer Builders of Successful Offset Presses

HARRIS · SEYBOLD POTTER *Company*

General Offices: 4510 East 71st Street, Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd Street; Chicago, 343 South Dearborn Street; Dayton, 819 Washington Street; Atlanta, (Harris • Seybold • Potter Service Corp.) 120 Spring Street, N. W.; San Francisco, 420 Market Street • *Factories:* Cleveland, Dayton.

How to SAVE on Rollers

NO SWELLING!
Vulcan rollers are made to stand up and deliver real service — without swelling, shrinking, chipping, or cracking.

"Forgotten" rollers are the rollers that pay you dividends! All Vulcan rollers are trouble-free. They're WEATHER-PROOF—hot and cold won't harm them—and they're impervious to the action of oils, driers, washes, and inks. . . . Softer than rubber, these non-rubber rollers are more resilient, too! They'll take the hardest kind of pounding in service and come through looking and PRINTING like new. . . . Cut costs—stop costly press delays—by selecting the rollers for your job from the Vulcan line of LONGER-LASTING rollers. Drop us a line for printed matter and recommendations.

VULCAN PROOFING COMPANY
First Avenue and Fifty-Eighth Street Brooklyn, New York
Sales Representatives in All Principal Cities

VULCOLASTIC
Rollers are your best choice for newspaper work—for finest printing qualities, lowest replacement factor, greatest freedom from trouble.

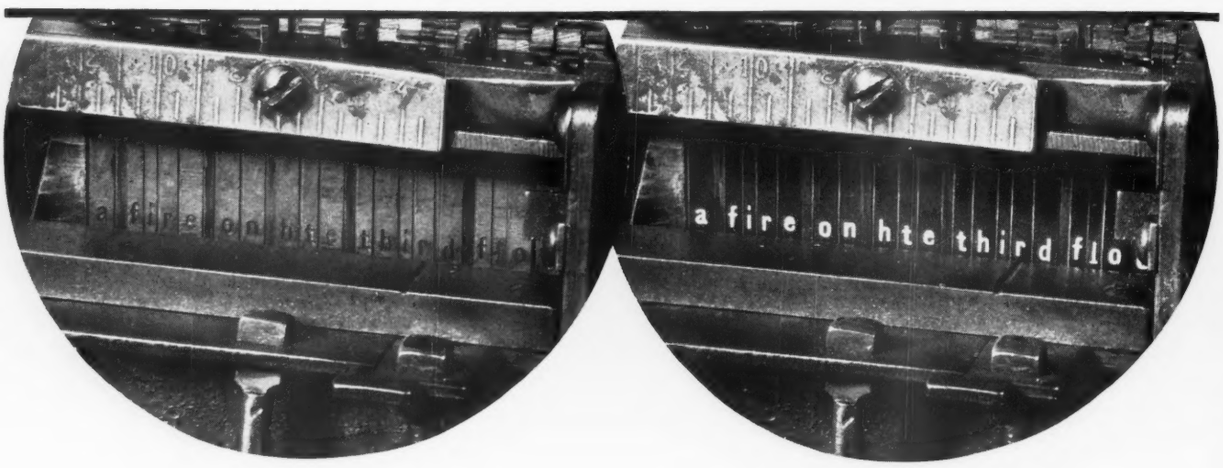
VULCAN GELASTIC
Rollers are specially designed for commercial letter-press printing. They'll save money on the smallest platen jobber—or the largest magazine rotary!

LITHOLASTIC
Rollers offer exclusive Vulcan features to the offset printer and lithographer.

VULCAN ROLLERS

DO YOUR MACHINE ERRORS

WHISPER . . . or SHOUT ?



Typesetting machine errors stand out like a sore thumb . . . *before* the line is cast . . . with Matrix Contrast reference marks on the job. They're sharp. Clear-cut. And *instantly* readable, without effort. *So what?* Well — up to 40%* fewer errors, for one thing. A 25% reduction is *guaranteed.* And extensive surveys indicate that 4% of the total outlay for operating line composing machines (including labor) is SAVED by BLACK & WHITE Matrix Contrast Service. And production steps UP. Write today for PROOF of savings — and for information on pay-as-you-profit payments.

***The average reduction of errors in NEWS composition is about 33% — On AD work the savings are usually even greater.**

MATRIX CONTRAST CORPORATION

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

EMPIRE STATE BUILDING, NEW YORK

European Agents: Funditor, Ltd., 3, Woodbridge Street, Cleckenwell Green, London, E. C. 1

Black & White
MATRIX CONTRAST SERVICE

Gravure

By Intaprint process—Work shows complete dropouts and well-defined dot formation down to pin-point sizes—Bridge acting as doctor blade carrier and method of obtaining it through special screen said to be foundation of patents.

By ADAM HENRI REISER

DEPTH and range of colors obtainable by three-color photogravure printing is acknowledged superior to that possible by any other printing process in three colors. Straight roto- or photogravure, however, entails certain difficulties, such as (up to the moment) register on the web presses used in gravure; cost of the process, and uniform impressions over the length of a sizable run.

But just as gravure has salient features, so, too, have letterpress and offset-lith. President W. J. Wilkinson, of Zeese-Wilkinson Co., Inc., top-flight eastern color printers, set about blending what he felt was desirable of the various methods, by incorporating beneficial and outstanding qualities into one. Intaprint is the result. Mention of combining benefits always recalls to mind the writer who wrote with his head out a garret window to combine the pleasure of being in his garden while working in the house.

Mechanical Improvements Adapted to Intaprint

What is Intaprint? Intaprint is called an adjunct to letterpress, offset-lith and gravure printing. It is a form of direct gravure printing, in which ink is put to paper via pressure direct with the printing medium. More than 500,000 impressions are reported taken from one plate with no variation in quality throughout the entire run. Intaprint is a form of intaglio printing making use of the recessed plate, the work areas resting below the smooth surface of the copper plate. A sheet of copper is used, 0.02 in. thick; the sheet when finished being clamped around a plate cylinder much in the fashion employed on the offset press. A special bridge device closes the gap in the cylinder where both ends of the plate are fastened. This bridge permits even operation of the doctor blade which is used to remove the surplus ink from the plate as in regular gravure work.

Cooperation with the Miehle Printing Press & Mfg. Co. resulted in developments in the instrument of printing, the new press making possible the results now obtained by the Intaprint process. The press is a sheet-fed machine, adaptable to either copper cylinder or plate printing. An aluminum inking roller in the fountain, just out of contact with the printing surface, floods the plate with ink. Volatile gravure printing inks are used in the process. These inks are dried by a special air-drying device in the press. The doctor blade used to remove surplus ink from the plate is a novel affair, in the form of a continuous band of steel propelled in a transverse direction across the plate surface*.

Plate-Making Methods

Also of importance is the departure from standard gravure processes embodied in the plate-making invention of Intaprint. Significant is the elimination of the carbon tissue method of producing the work areas on the printing surface. Carbon tissue, of course, is a specialized substance consisting essentially of bichromated gelatine on a paper base.† Among other things, carbon paper has been supplanted by the adoption of the offset-lith method of photo-composing. This method of plate-making, which permits precision register to the thousandth part of an inch, is adaptable to the flat plate used in the Intaprint process.

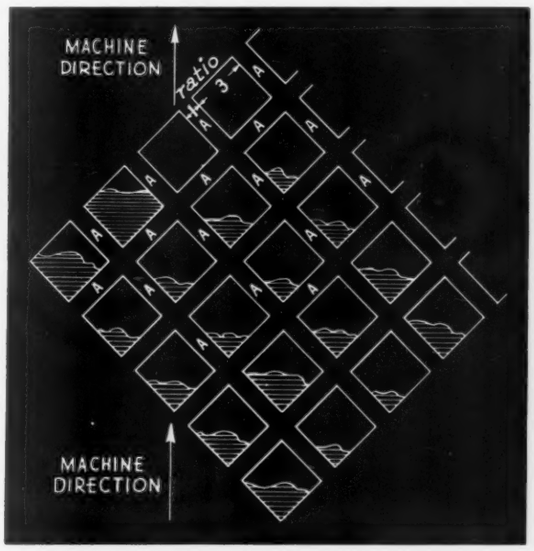
Stage etching in gravure, with the concentrated acid and water-solution acid for various grades of the work and to acquire depth, is also eliminated by the process. In its place the deep-etching technique of offset-lith is used to obtain proper tone values. The positive wet-plate, so well known to photo-engraving, is employed in this. Finished screen positives are stepped-up to the flat copper sheet in the photo-composing machine. To secure the image, a light sensitive coating of the type of a cold top enamel is used on the copper press plate.

Developing and etching take place after the required exposures are completed. Developing and etching operations remove the portions of the light-sensitive coating which have not been affected by light (actually the parts of the coating lying beneath the dots and lines on the positive during exposure) and attack the copper metal exposed.

Now, in regular gravure work, because of the type of screen and the nature of the process, tones are secured to a

*Editor's Note—Description of the press was published in the May 1938 issue of *Printing Equipment Engineer*.

†This material which is important to gravure work, receives 40 pages of treatment in the newly revised, second edition of *Photogravure* by H. Mills Cartwright, F.R.P.S., published by the American Photographic Publishing Company, and obtainable through *Printing Equipment Engineer*.



Diagrammatical representation, greatly enlarged, showing section of regular gravure plate. The transverse sections A represent screen lines which are the high planes of the plate. Shaded portions represent ink left in the recessed dots.

great degree by the depth of the etch. Heavier tones have deeper recesses and lighter ones more shallow cuts. Photogravure gives the impression of tonal values by variations in the depth of the inkwell and consequent amount of ink that can be carried therein. Examination of a gravure subject under a magnifying glass will show something similar to the enlarged diagrammatical section shown in Fig. 1.

Dots or inkwells depicted by each square are all alike in area but the depth varies to that proportion in which that part of the picture is heavy or light. Depth controls the amount of ink deposited in the cut and therefore to a degree the amount left when the doctor blade scrapes the excess off the surface. Areas *A* must remain between the dots to form a rest for the doctor blade and also walls for the dots. In gravure work the screen which has been found most suitable has lines whose ratio to white squares formed by these lines, is 1:3 for a 150-line screen, and 1:2.5 for a 175-line screen.

Special Wilkinson Screen

Of course letterpress or offset-lith screens have a 50-50 or 1:1 relationship of lines to spaces. That's why they are popularly referred to as halftones. To make the new Intaprint practicable, it is reported Mr. Wilkinson has developed a screen different than that described above.

While literally hundreds of experimenters in this country and abroad have worked for years to use the so-called inverted halftone method to produce plates and cylinders for the intaglio press, none of these seem to have succeeded to the extent of the Intaprint Process. This is due chiefly to the difficulty of maintaining a bridge in the darker tones of the picture as a carrier for the doctor blade, without interfering with the depth of color and the correct graduation of tone values. This bridge and the manner in which it is obtained through the special screen are the foundations for the patents.

Examination of Intaprint work shows complete dropouts and well defined dot formation down to pin-point sizes. This is at variance with the dot formation of regular gravure work. Here for the first time in gravure work there seems to be a dot formation similar to the halftone dots of letterpress and offset-lith.

From the foregoing description, it is evident that Intaprint embodies a number of distinct departures from ordinary gravure. It embraces some revolutionary practices. Samples of work produced by means of the process exhibit a softness apart from gravure work. They also ably demonstrate that the era of pioneering is still with us.

P. N. P. A. Mechanical Conference

The theme of the 1940 Mechanical Conference of the Pennsylvania Newspaper Publishers Association will be "Five Hundred Years of Progress in Printing" in cooperation with the nationwide quin-centennial celebration of the anniversary of printing.

The mechanical conference will be held at the Penn-Harris Hotel, Harrisburg, Pa., on Monday and Tuesday, April 8 and 9.

Howard J. Lamade, business manager of the Williamsport (Pa.) *Grit*, and chairman of the P.N.P.A. Mechanical Conference, has announced the engagement of outstanding speakers on newspaper mechanical department problems.

The March 30 issue of the P.N.P.A. *Bulletin* will contain stories on the history of printing as well as the complete program of the mechanical conference and other interesting articles.

Miniature Mechanical Conference

On Sunday afternoon, January 21, following Saturday adjournment of the California Newspaper Publishers Convention which was held at Hotel del Coronado, San Diego, Calif., these men and other invited guests gathered at the home of Production Manager K. L. Gregg, of the San Diego *Union*. Left to right, they are: Western Representative, A. E. Malloy, Goss Printing Press Co.; Western Representative, R. A. Willoughby, R. Hoe and Co.; Western Representative, Jennings J. Phillips, New England Newspaper Supply Co.; Los Angeles Manager, William E. West, California Ink Co.; Western Representative, H. A. Williams, Cline Electric Manufacturing Co., and Western Representative, Wallace Granger, Duplex Printing Press Co.

Reports have it that a miniature newspaper mechanical conference was held at the Gregg homestead. Presses were built and operated in production, ink was mixed and the cylinder packing situation was gone over thoroughly.

Monotype Stylscript

A special showing of Monotype Stylscript, Series 425, is being prepared by Lanston Monotype Machine Company. This new script letter was designed by Monotype Associate Art Director Sol Hess. Sizes run from 14 pt. up to and including 72 pt. Monotype believes this is one of the best script designs which has been developed for use in single-type composition. It is said to be effective in display advertisements and when printed in color. Any readers of *Printing Equipment Engineer* may obtain a copy upon request to Lanston Monotype Machine Company direct or in care of this magazine.

Hoe's Annual Report

R. Hoe & Company's annual report for the year ending September 30, 1939, shows unfilled orders as of December 22 of more than $1,640,000 as compared with $647,770 as of October 1, 1939. While a loss was shown in the report, several highly encouraging factors were revealed. Net loss for fiscal year was $145,277.89 as compared with previous fiscal year's net loss of $727,719.48. There was a reduction in loss for 1938-1939 as compared with 1937-1938 in spite of the fact that billings were more than 50% less for 1938-1939 than in 1937-1938. Another factor was the conversion of the operating loss of the previous year, before depreciation and interest charges, of about $275,000 into an operating profit, before depreciation and interest charges, of $18,893.25. A further factor was the successful consummation of the sale of R. Hoe & Company, Ltd., the former British subsidiary, the transfer of more than $2,000,000 resulting from this sale to R. Hoe & Company, Inc., and its use for reduction of the company's funded debt of more than $1,500,000, which reduction will be increased later by additional bond retirements and increasing the company's working capital.

MEASUREMENT *of printing or lithographic ink with Inkometer to determine its consistency under printing conditions eliminates human judgment.*

By ROBERT F. REED*

*Lithographic Technical Foundation, Inc., 220 East 42nd St., New York.

THE consistency of a printing or lithographic ink is the combination of physical properties which determine its printing quality. These properties are usually considered to be body, viscosity, stiffness or softness, length or shortness, lifting properties or tack, depending on the case in hand and the individual's point of view. The nature of the printing process, character of the surface to be printed, temperature, and speed of printing, determine what the ink consistency should be for best results, and the best consistency must be found by experience for each particular set of conditions.

Inks are plastic solids. In the can they often manifest no tendency to flow, but as printing media on the press they are definitely fluid. This change in consistency with agitation or working is a property for which the term "thixotrophy" has been recently coined, and which is important but extremely difficult to measure. Because of thixotrophy, measurements of viscosity, stiffness, length, or tack of an ink obviously mean little unless made under conditions of working corresponding to actual printing, and duplication of these conditions in a laboratory test has been a difficult problem.

Tack and length are both altered by working the ink, length to much the greater extent. For this reason no test made under static conditions, or under conditions of working which differ greatly from actual printing conditions, can provide a true measure of printing consistency. Tack and length are also greatly affected by temperature, and their measurements to be of practical value must be made under controlled temperature conditions.

Up to the present the ink man and printer have found no method of controlling ink consistency that does not depend very largely on experience and judgment.

It is plain that the ink manufacturer and printer need an instrument which will (1) measure ink consistency under printing conditions, and (2) provide consistency values in numerical terms which are absolute rather than relative to unstable shelf standards. Such an instrument is now available in the Inkometer.

The Inkometer

Simplified diagrammatic side views of the Inkometer are shown in Fig. 1, which serves to illustrate the principle of its operation. Fig. 1A shows the swinging frame in static balance with the rollers free from ink and at rest. Fig. 1B shows the angular displacement of the swinging frame Z which results from rotating the rollers by driving metal roller X. The force causing this displacement is the resultant of frictional torques in journals P and Q, plus the torque resulting from continuous deformation (internal friction) of the composition covering the roller Y, in the absence of ink. Fig. 1D shows the balance restored by application of the force w, the moment of which just equals the frictional torques. Fig. 1E shows the angular displacement of the swinging frame Z when ink is applied to the rollers after they have first been balanced, as in D. Fig. 1F shows the balance again restored by application of the force W, the moment of which just equals the torque produced by the ink film. An important characteristic of the force w is that it does not change appreciably with speed. The force W, however, changes considerably with speed, and its value and rate of change with speed measure the printing characteristics of the ink film. The force W represents tack of the ink and is measured by the Inkometer at three different speeds covering a range which includes all normal printing speeds.

An actual view of the Inkometer is shown in Fig. 2. Its essential features consist of the following:

1. The metal roller X which is driven through a three-speed transmission.
2. The composition-covered roller Y which bears on metal roller X.
3. The side members Z and fixed counterweight C, which together constitute the swinging frame (see also Fig. 1).
4. The graduated scale beam and sliding weight, which correspond respectively to the side arm L and weight W in Fig. 1, and from which tack readings are taken.
5. The composition-covered vibrating roller V, bearing on the metal roller X, which provides lateral ink distribution.

Interpretation of Inkometer Measurements

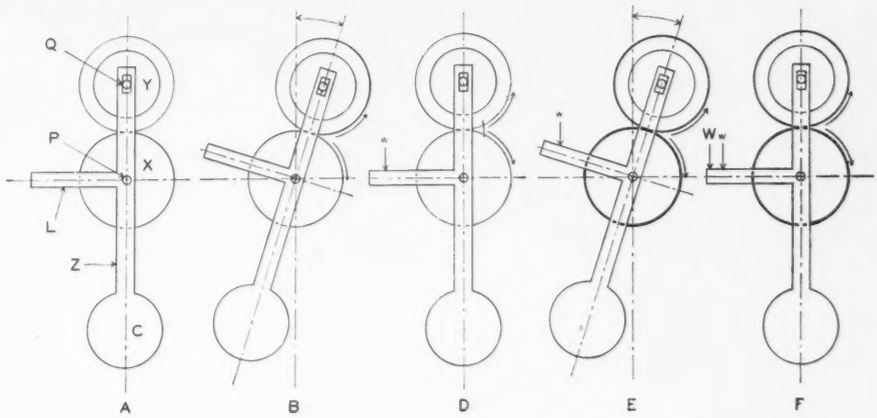
The following table shows an actual example of Inkometer readings obtained from two different offset inks.

Ink No.	READINGS		
	600 r.p.m.	400 r.p.m.	200 r.p.m.
1	40.3	34.0	24.1
2	37.1	34.0	28.0

These readings are shown graphically in Fig. 3. The example is interesting because the tack readings of the two inks at the medium speed are identical, but are different at the high and low speeds. In Fig. 3 the curves for these inks have different slopes and indicate that Ink No. 1 was the longer of the two. Finger tests indicated that Ink No. 1 was the longer and Ink No. 2 the tackier, but the Inkometer tests showed that at moderate printing speed the tacks were the same, and at high speed Ink No. 1 was the tackier.

While the curves in Fig. 3 serve as records of length and tack, it is sometimes more convenient to express these values in numerical terms. Tack may logically be represented as the reading at the medium speed (400 r.p.m.) or at the

Fig. 1—Diagrammatic illustration of Inkometer principle. A shows swinging frame in static balance with rollers X and Y at rest. B shows angular displacement of swinging frame Z resulting from rotating the rollers by driving metal roller X. (Force causing this displacement is the resultant of frictional torques in journal P and Q, plus torque resulting from continuous deformation [internal friction] of composition covering on roller Y in the absence of ink.) D shows balance restored by application of the force w, amount of which just equals frictional torques. E shows angular displacement of swinging frame Z when ink is applied to rollers after they have first been balanced, as in D. F shows balance again restored by application of the force W, the moment of which just equals the torque produced by the ink film.



EDITOR'S NOTE

The Inkometer may be one of the most important developments of the Lithographic Technical Foundation's research studies. The ink industry long has needed an accurate reproducible method of measurement of tack and length of ink. Dr. Reed's contribution for the lithographic industry may have even more value as a tool for research in printing ink studies. Like all developments, the Inkometer must be used to demonstrate its real worth.

It is regrettable that it is not possible to print all of Dr. Reed's discussion, but those readers desiring further information may secure it by asking for Technical Bulletin No. 2, issued by the Lithographic Technical Foundation.

speed nearest to the actual printing speed for which the ink is required. A corresponding value for length should be the slope of the curve corresponding to the selected value for tack. However, The average slope is sufficiently accurate for practical purposes and may be represented by the difference between the torques at the high and low speeds. Thus the numerical values for tack and length of Inks No. 1 and 2 are as follows:

Ink No.	Tack	Length
1	34.0	40.3 — 24.1 = 16.2
2	34.0	37.1 — 28.0 = 9.1

Practical Value of Inkometer

The primary purpose of the Inkometer is to enable the accurate measurement of ink consistency, or in other words, printing properties. At present there appears to be no other instrument suited to this purpose and capable of handling the plastic inks commonly used in letterpress and offset printing. The Inkometer should prove of inestimable value to the ink manufacturer in the standardization of printing consistency of his inks. Many letterpress inks are delivered to the customer with the consistency at which they are to be printed. In the absence of stable consistency standards and of accurate methods of measuring consistency, however, much variation in printing quality occurs which must be adjusted in the pressroom, often with the help of a service man at the expense of the manufacturer. There are, of course, other factors which at times make adjustments necessary, such as variations in temperature and in the ink receptiveness of the paper, but these adjustments are greatly simplified and made more certain if the ink is properly standardized as to printing quality in the first place.

Lithographic inks are usually adjusted to their final consistency, and drier added, by the pressman. It might seem,

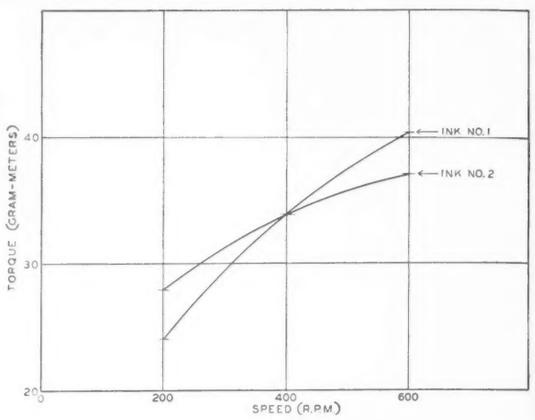


Fig. 3—Typical graph of Inkometer tack readings of two offset inks. The tack readings of the two inks at the medium speed are identical but are different at the high and low speeds.

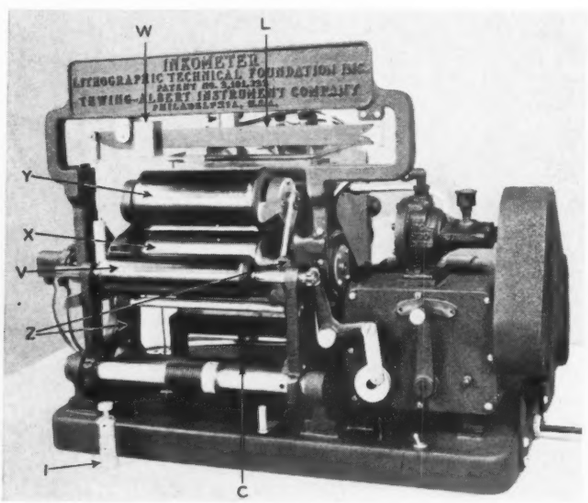


Fig. 2—View of Inkometer employed for the measurement of the consistency of printing or lithographic ink. Metal roller X is driven through 3-speed transmission. Composition covered roller Y bears on metal roller X. As in Fig. 1, side members Z and fixed counterweight C, together constitute the swinging frame. Graduated scale beam L and sliding weight W correspond respectively to Fig. 1's side arm L and weight W, and from which tack readings are taken.

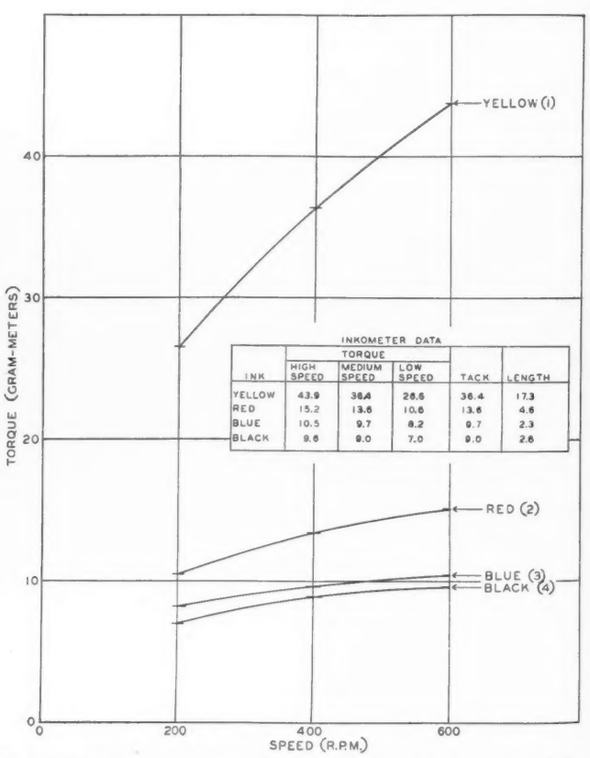


Fig. 4—Inkometer consistencies of typical letter-press inks adjusted for magazine printing on s. c. paper on a 4-color McKee Press, in the order, yellow—red—blue—black.

therefore, that standardization of the original inks by the manufacturer is of little importance. This is not true because variations in the amounts of compounds and reducers required to produce a desired printing consistency also change color strength somewhat, and inks of standard consistency would greatly simplify the pressman's job. In production work formulas for adjustment of standardized inks could be depended on with much greater certainty than at present. And any simplification of the pressman's ink problems would mean greater efficiency and production.

Standardization of ink consistency is particularly important in the case of wet multi-color process printing, where inks must trap on each other in addition to being suited to the paper. The Inkometer will enable much needed research to be done on the proper adjustment of consistencies in sets of multi-color process inks. Preliminary data show large variations in the relative tacks of these inks in practice, a condition not generally realized and which probably results in failure to attain uniformly high quality.

Consistency standardization and control is also important where soft, linty papers and coated papers are to be printed. The Inkometer indicates whether an ink will fly or mist at printing speeds. It eliminates personal judgment with regard to livering and other aging characteristics. It should prove much more satisfactory than viscometers now used in determining the oil-absorption of pigments.* It should enable much to be learned regarding the relationship between ink consistency and paper characteristics, temperature, and speed of printing.

*See "Standard Methods for Testing Ink Colors," *American Ink Maker*, 16, No. 9, Sept. 1938, pp. 55-58.

BOOKS

RECEIVED

Intertype Casting Mechanism

INTERTYPE Corporation has published the second section of its work on the function, care, operation and adjustment of the Intertype line-composing machine. The second section is devoted to the casting mechanism. All of the text matter has been brought up to date in conformity with the many improvements which have been made in the Intertype since publication of the first text book some time ago. This new book contains in excess of 125 perspective and cross- ection indexed drawings for complete understanding of the text matter.

Noteworthy is the complete information furnished about the Intertype Mold System, Pot Crucible Baffle Mouthpiece, new style Gas and Electric Pots, the Automatic Quadding and Centering Device and the Six-mold Disk, 6-mold System and Automatic Ejector.

Including some of the optional equipment mentioned above, special attachments are analyzed and di cussed. Among these attachments are the Intertype Stick Attachment and Mechanism for casting hand-set lines up to 60 pt. caps, including display italic matrices; Pot Crucible Mouthpiece Wiper; Justified Quadding Attachment, and several others developed for special conditions.

The operation and functions of the various parts composing the quadding and centering device are illustrated and explained meticulously so that the machinist and machinist-operator can handle and care for the device intelligently. We anticipate that this section of the book especially will be appreciated by those operating or caring for Intertypes equipped with the automatic quadding and centering device because its construction, while not complicated, cannot be seen in operation.

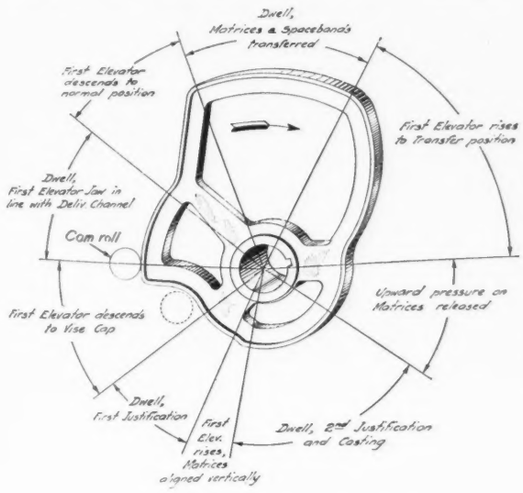
Section I of the book was published several months ago. It has been announced that Section III which will be devoted to the distributing mechanism will be published shortly, after which plans are being made to publish all three sections in one volume.

The Intertype—Section II, Casting Mechanism. Published by Intertype Corporation. Size 6 in. by 9 in., 206 pages, more than 125 perspective and cross-section drawings. Bound in heavy paper with cloth back.

Klean-O-Mat Items

Frank H. Laavy is now general sales manager of Klean-O-Mat Corporation with headquarters at the Corporation's offices in New York.

The appointment of P. H. ("Pete") Miller, as manufacturer's sales agent with headquarters at Quincy, Mass., to represent Klean-O-Mat Corporation in the six New England states was announced recently by General Sales Manager Frank Laavy.


Dwell, Matrices & Spacebands transferred
First Elevator descends to normal position
First Elevator rises to Transfer position
Dwell, First Elevator Jaw in line with Deliv. Channel
Cam roll
First Elevator descends to Vise Cap
Upward pressure on Matrices released
Dwell, First Justification
First Elev. rises, Matrices aligned vertically
Dwell, 2nd Justification and Casting

Section II of Intertype's book on function, care, operation and adjustment of the Intertype charts all of the 10 main cams to analyze for the reader just what function is performed by each swell, lobe or dip of the cams. Here is shown in reduced size a diagram of the first elevator cam.

EMPLOYMENT AND SERVICE

Employers, production and mechanical executives may insert notices in this department. Items may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland, O.

Ad Employment and Service

WANTED — Reliable concern to develop and put on the market a process of super finishing curved or flat typographic printing plates. Patented. Reply Box 82.

MONOTYPE — Operator-caster wants position; 20 years experience; 40 years of age; with last employer 10 years. Reply Box 83.

Santa Ana [Calif.] Register Has One-Floor Operation

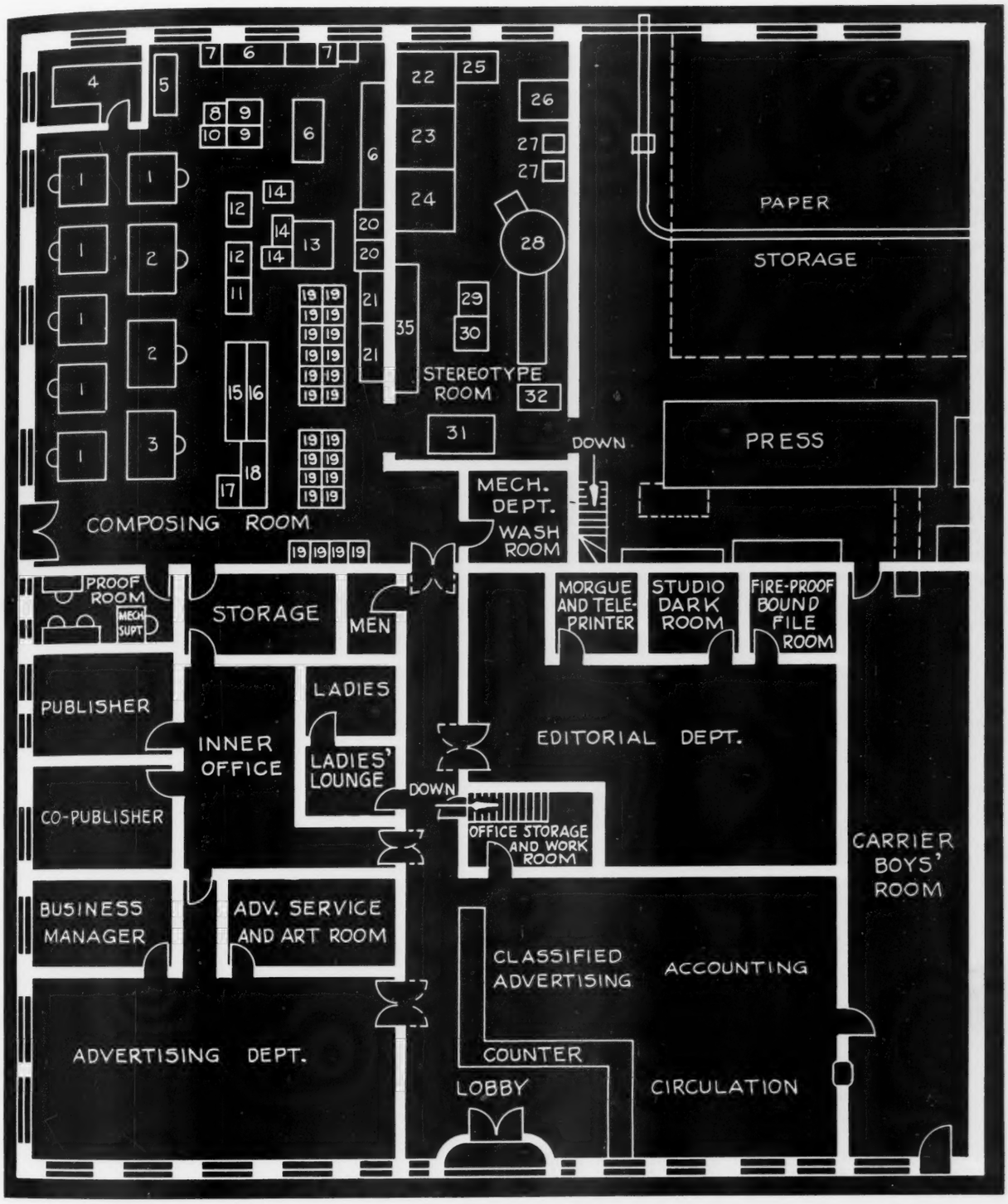
"A PRODUCTION plant all on one floor, intricate machinery manipulated skillfully, typewriters pouring out words and little bells announcing the end of each line as stories unfold, artful drawings being sketched and attractive catch-lines born in the ad room, hurrying feet, telephones busy, voices sounding all about — that's the Santa Ana *Register's* pulse of activity at the new home, Sixth and Sycamore streets, where the entire personnel of 244 people frequently gathers just at press time"— thus did Malcolm Bostwick salute the Santa Ana (Calif.) *Register's* reading public in a 96-page special edition recently, which was published to mark the opening of the new newspaper publishing plant in November.

Of principal interest to readers of *Printing Equipment Engineer*, however, is a peek at the mechanical department layout and a view of the one-story building exterior. The new building occupies approximately 12,000 sq. ft. of ground floor space. An additional 2000 sq. ft. of loft storage space is also available.

Noise in the mechanical departments is kept at the minimum and is prevented from transmission to the offices. All ceilings in the main offices and in the composing room are acoustically treated with celotex over thermax. All walls between the mechanical departments and the offices are insulated with rock wool for sound-proofing. Floors in the composing, stereotype and press-rooms are cement. The color scheme provides for cream paint on the walls and panels and a slightly darker shade for trim.

The executive staff of the *Register* is composed of Publisher R. C. Hoiles; General Manager C. H. Hoiles; Business Manager E. J. Hanna; Advertising Manager R. M. Juillard; Circulation Manager R. M. Conklin; Composing Room Superintendent George Ashman; Machinist V. C. Shidler; Press Foreman George Ashman; Stereotype Foreman Guy Belcher.

Mechanical equipment was moved in the period from 10 o'clock on a Saturday morning. The balance of the mechanical equipment including office fixtures were moved and ready for use for the night shift which started work on Sunday night at 6 o'clock.



Floor Plan Office and Mechanical Equipment Layout of Santa Ana (Calif.) Register, Mechanical equipment is identified by numbers as follows:

1. Straight Matter Machines
2. Ad Machines
3. Head-letter Machine
4. Machinist Room
5. Elrod Caster
6. Ad Stones
7. Saws
8. Miter
9. Cut Storage
10. Border Storage
11. Ad Foreman's Desk
12. Ludlow Typograph
13. Ad Proof Press
14. Ludlow Type Cabinets
15. News Dump
16. Copy Desk and News Cut Cabinet
17. News Proof Press
18. Makeup Tables
19. Page Trucks
20. Page Slides
21. Ad Cut Cabinets
22. Flat Router
23. Rougher
24. Stereo Saw
25. Curved Plate Router
26. Remelting Pot
27. Casting Boxes
28. Pony Auto Plate
29. Form-O-Scorch
30. Sta-Hi
31. Molding Machine
32. Plate Delivery
33. Paper Hoist
34. Underground Ink Storage
35. Benches
36. Paper Conveyor

Equipment and Supplies

Stereotex Double-Acting Matrix Press

C. Fritschi, General Manager of Stereotex Machinery Company, has announced that patents have been granted on his latest development which is called Stereotex Double-Acting Full-Automatic Hydraulic Matrix Press for the molding and drying of the baked-on type of stereotype mats, and more especially to a method of and means for drying the mats by suction while they are under heat treatment and subjected to pressure induced by the action of suction.

Under efficient working conditions, states Mr. Fritschi, about 28 baked mats per hour may be produced on the new Stereotex Double-Acting Matrix Press, in a floor space of approximately 30 sq. ft. without risk of "double impression" on the mats. The press is designed to handle black-and-white and color mats.

A duplex arrangement of drying tables is provided with respect to a centrally located matrix molding press, so that two mats may be dried simultaneously on two different forms, or one matrix may be subjected to drying treatment while the other matrix is being molded in the press.

The anti-friction form-rolling plates on the front and rear tables are each equipped with a hinged, counter-balanced vacuum plate and an independent vacuum pump. With the application of heat at the bottom together with application of suction at the top, pressure is applied to the drying form assembly by the action of atmospheric pressure on the top of the vacuum plate, the pressure being proportional to the degree of suction maintained in the suction slots and in the line. This atmospheric pressure on the drying form assembly, after the hydraulic pressure has been released, is ample for satisfactory final drying of the mat and eliminating any risk of so-called "double impressions."

The Stereotex Double-Acting Matrix Press may also be used for cold-molding. If the molding blankets are fastened to the top platen it is said that from 3 to 4 mats per minute may be produced with one operator. Five mats per minute may be produced with two operators (one on each side of the machine).

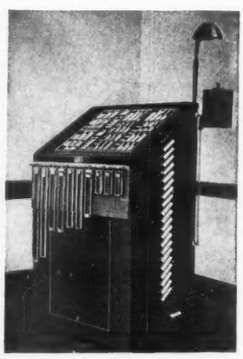
Further particulars may be obtained from Stereotex Machinery Company, direct, or in care of *Printing Equipment Engineer*.

When replying to advertisements, mention

PRINTING EQUIPMENT Engineer

Universal Matrix Cabinet

Ludlow Typograph Company states its new 20-case Universal Matrix Cabinet is designed for handling Ludlow matrices of the larger sizes and to provide cases with increased matrix-holding capacity. Can be provided with either 1¼ in. or ⅞ in. matrix cases, or both. Any roman case may be changed to italic by inserting filler blocks. Cases are



View of new Ludlow Universal Matrix Cabinet for larger point-size matrices.

provided with right or left-hand pulls and are roller-bearing for easy operation.

Boxes for the 1¼ in. matrices permit the matrices to be stacked in the usual cross-wise position. Matrices rest and slide on brass-topped vertical partitions which act as rails under the matrix ears. Cases hold approximately twice as many matrices as the standard cabinet. Extending the full depth along the inner side of the case is a long vertical channel which may be divided by inserting readily-removable cross-partitions for the accommodation of advertising or superior figures or for extra matrices.

Cases for holding ⅞ in. matrices have approximately 70% more capacity than the standard ⅞ in. case. Additional boxes are provided above the letter boxes for advertising and superior figure matrices. Three additional rows of boxes also are provided for character matrices.

For the 1¼ in. and the ⅞ in. cases, italic filler blocks may be used to prevent italic-body matrices from sliding over and binding on the box sides. The italic filler blocks may be removed for roman matrices.

The enlarged cases, equipped with a new combination label holder and handle are strongly constructed with case bottoms of ¼ in. thick plywood, faced top and bottom with birch.

Unit space trays for the cabinet top will accommodate a complete assortment of spaces, quad blocks and division quads. A large tool drawer with separate compartments for molds and accessories is provided.

Stick rack, sliding copy-holder, unit space trays, light fixture and italic filler blocks are extra equipment.

Base of Universal matrix cabinet is 27 in. by 30 in. With case open, cabinet and case measure 27 in. by 58 in.

New Non-Warping Paste

Paisley Products, Inc., announces its new printers and bookbinders paste. It is claimed the paste will adhere all grades of paper stock to chip and binder's board without wrinkling or warping, because of its ability to stay on the surface of the paper, preventing saturation of the board. A thin film of the paste can be applied without sacrifice of adhesive qualities.

The new paste is applied in the usual manner, by hand brushing or machine, and permits the operator to lay out considerable work at one time.

The lay-flat nature and adhesive strength of the paste makes it suitable for converters of paper and paperboard products.

Equipped with V-Drive

The Challenge Machinery Company announces that the new Challenge-Diamond power paper cutter, when equipped with motor and belt drive, will have a twin-grooved motor pulley and two B-section V-belts at the regular flat-belt drive price. The new type of drive is

View of Challenge-Diamond paper cutter with two B-section V-belt drive.

designed to eliminate belt slippage and deliver an even flow of power.

Another Diamond feature is the 38 in. table height.

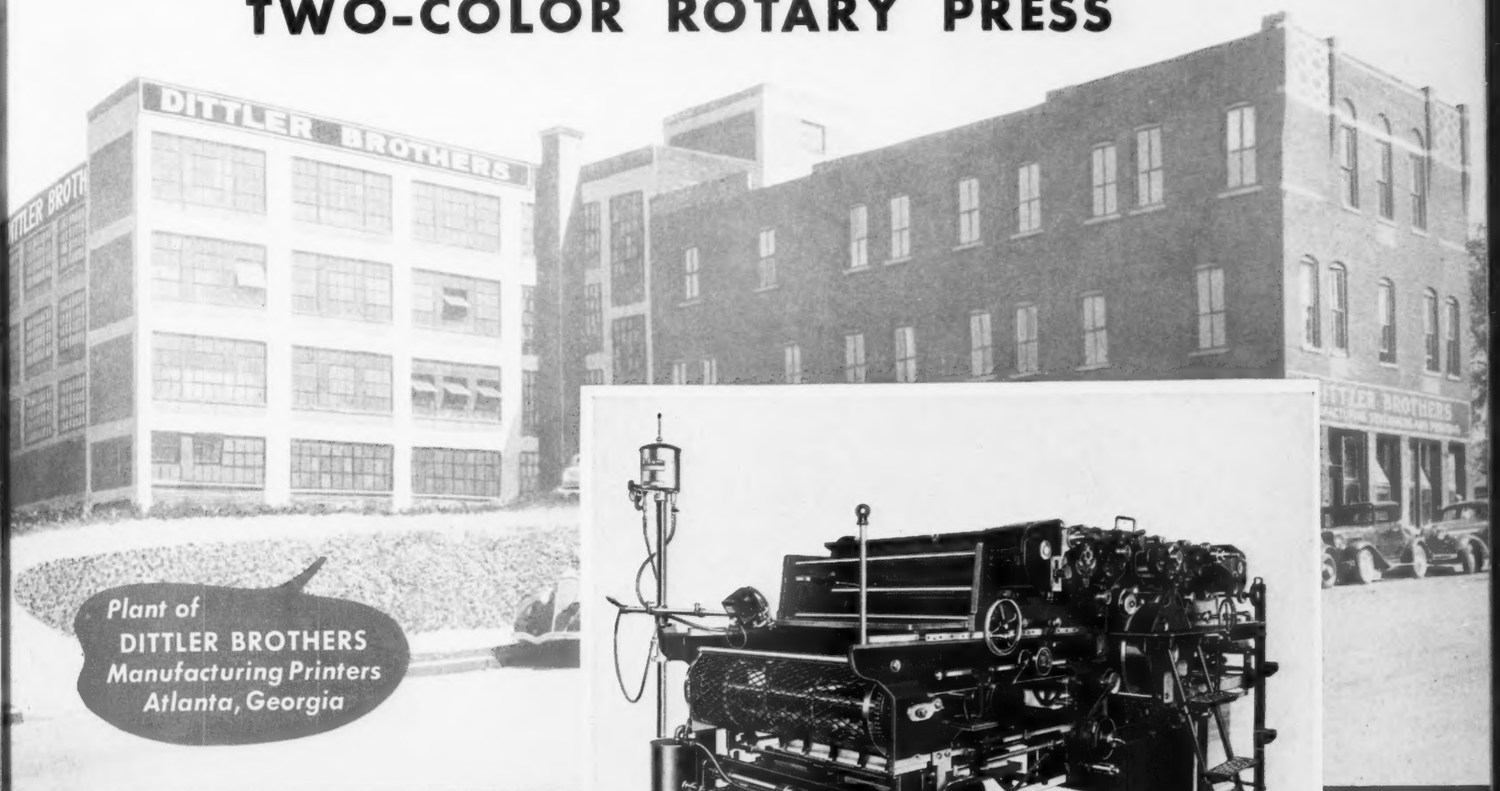
The Challenge-Diamond is made in three sizes, all identical in construction. 30½ in., 34½ in. and 36½ in.

Three safety devices are offered as extra equipment where required by state laws, all bearing the approval of the New York State Board of Standards and Appeals.

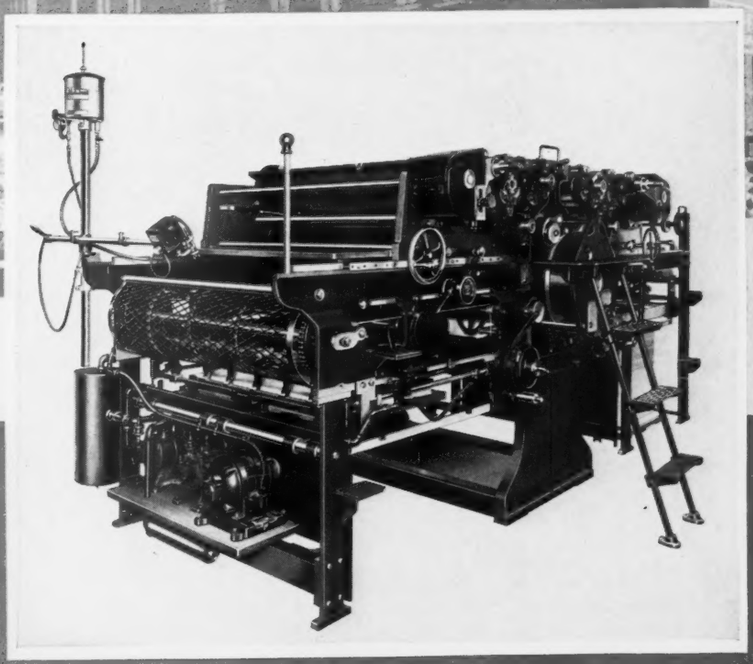
"Production greater than estimated"

says another user of the Cottrell Claybourn

TWO-COLOR ROTARY PRESS



Plant of
DITTLER BROTHERS
Manufacturing Printers
Atlanta, Georgia



Cottrell Claybourn Two-Color Rotary Press. Made in three sizes, for maximum sheets of 29¼ x 29, 29¼ x 45, and 36 x 48, respectively. Spray mechanism at left is extra equipment.

The following excerpts are quoted from a letter written by Alex Dittler, of Dittler Brothers, Manufacturing Printers, Atlanta, Georgia, concerning a Cottrell Claybourn Two-Color Rotary Press:

"The press has come up to our expectations in every way. Production is greater than you estimated, and we have found no representation made by you that the press has not backed up and even gone beyond.

"It has been a pleasure to handle this transaction with your firm. Your erector worked with our men as though he had been here all his life, and it was a pleasure to have him in the plant."

A booklet printed without make-ready on the Cottrell Claybourn Two-Color Rotary, describing the press and its very profitable range of work, will be sent on request.

C. B. Cottrell & Sons Co., Westerly, R. I.

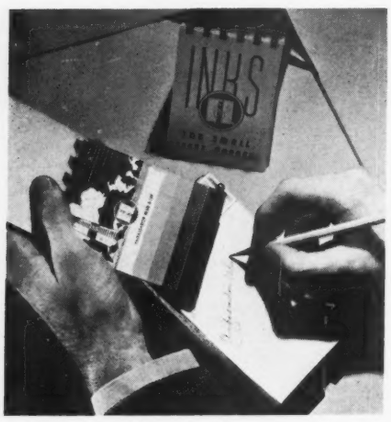
NEW YORK: 25 East 26th Street • CHICAGO: 400 West Madison Street
CLAYBOURN DIVISION: 3713 N. Humboldt Ave., MILWAUKEE, WIS.
SMYTH-HORNE, Ltd., 1-3, Baldwins Pl., Gray's Inn Road, LONDON, E. C. 1

Cottrell

CLAYBOURN DIVISION · TWO-COLOR ROTARY PRESS

Small Offset Press Inks

An ink specimen book prepared especially for small offset presses has been published by Fuchs & Lang Mfg. Co., Div. General Printing Ink Corporation. Thirty-nine colors and blacks are shown



on coated and offset stocks. There is an index of characteristics of each ink. Screen values are designed to aid definitely in color selection. Book is available from Fuchs & Lang Mfg. Co. direct, or in care of *Printing Equipment Engineer*.

Moisture From Air

Made in sizes from ⅜ in. up to and including 10 in., Logan Engineering Company announces that the Aridifier effectively removes dirt, scale, oil and moisture from compressed air and gas lines. The unwanted elements impinge on a multiplicity of propeller-like blades which revolve in opposite direction. The blades are propelled by the flow of air or gas. The arrested contamination is collected in the lower housing from which point it is drawn off.

Aridifiers are installed in the pipe line, operate without back pressure and require no maintenance other than a periodical cleaning-out.

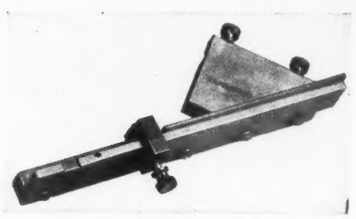
These units are designed for application to compressed air and gas lines in printing plant mechanical departments and in the pressroom where they are used to protect feeding and spraying devices.

Bulletin 939 is available from the Logan Engineering Company direct or through *Printing Equipment Engineer*.

Cut-away view of Aridifier showing oppositely revolving propeller blades which trap and remove moisture, oil and dirt from compressed air or gas lines.

Slug Squaring Device

H. B. Rouse & Co., announce a new Squaring Attachment for the Rouse Vertical Rotary Miterer. The Rouse Rule Squaring Attachment is designed to take a very slight cut from the end of line-slugs or other pattern rule, where a perfectly square end is necessary to make the rule match without visible joints. The Rouse Rule Squaring Attachment is



Machine-cast rules and slugs may be joined accurately by taking a slight cut from the ends with the Rouse Mitering Machine Squaring attachment.

readily attached to the Rouse Vertical Mitering Machine. It is recommended for use with line-slug or other ornamental slug cast border, the design of which requires very accurate joining for a perfect running border. Complete information on the Rouse Rule Squaring Attachment may be obtained by writing the manufacturer.

Karnak Intermediate Italic

Karnak Intermediate Italic is announced by the Ludlow Typograph Company as available in matrix form for Ludlow composition in sizes from 8 to 48 pt. It will be found useful for

Ludlow's new Karnak Italic

commercial printing and advertising composition as well as for newspaper headlines, states Ludlow.

Karnak Intermediate Italic is shown here in the 24-point size. Specimen sheets showing all sizes of the new face may be obtained from the Ludlow Typograph Company.

In MLCo's Chicago Area

William F. Henderson of the Mid-West agency of the Mergenthaler Linotype Company is now representing the company in the Chicago area. He succeeds Cliff C. Holy, now representing the company in Iowa. He formerly

worked at the American Insurance Union; the Weinlein Printing Company and the Stoneman Press, Columbus, Ohio, and for the Christian Publishing Company of Dayton, Ohio. Before moving to Chicago he was assistant foreman of the Egry Register Company of Dayton.

Rubber Plate Dept.

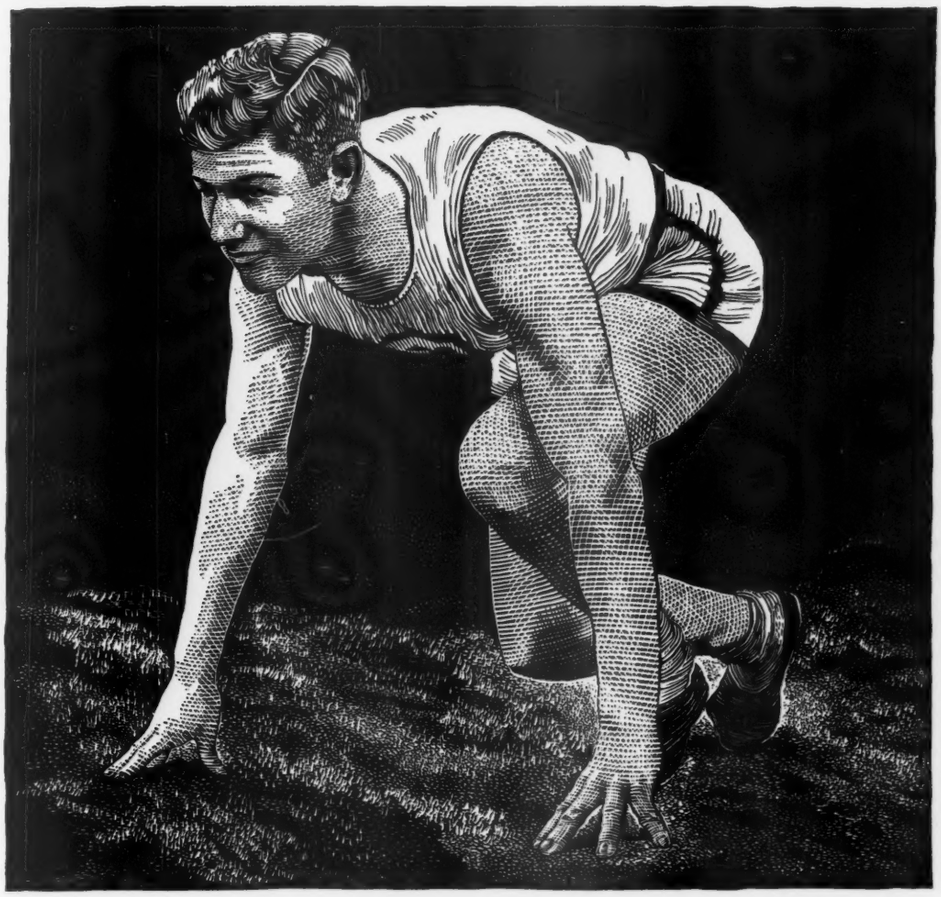
The establishment of a Rubber Plate Department to cooperate with the printing trade in the development of rubber plate technique is announced by Frederick B. Heitkamp, Vice President of

Fred A. Hacker

American Type Founders. The new department is headed by Fred A. Hacker.

Eastern representative of the rubber plate department is Mrs. Madelon L. Huellinghorst. The middle-western representative of the department will be Harry Loose who will make Chicago his headquarters.

Representatives of the Rubber Plate Department will function primarily as technical experts.



Get a *Flying Start* and win by a generous margin!

BEGIN the new year with every possible advantage—**complete** Ideal Roller equipment throughout your plant!

Quality, as well as **speed,** is the aim of every true craftsman. When a printer thinks of quality, he invariably thinks of the **uniformity** of the entire run, that the *50,000th* sheet should appear the same as the *2000th.* Ideal Rollers are performing this uniformity of pace day after day, effecting substantial **economies** by elimination of costly delays.

Ideal Rollers always possess plenty of speed and stamina to take care of your production requirements, and yet have sufficient reserve pep to carry you on into the period of your greatest economy, thus enabling you to better meet competitive prices.

Prepare your pressroom for new business, new **increased production** records and a far better quality of work than you have ever achieved before—by equipping your plant with Ideal Rollers—now!

BRANCH SALES OFFICES ARE LOCATED IN THE PRINCIPAL CITIES

IDEAL ROLLER & MFG. CO.

CHICAGO, ILLINOIS
LONG ISLAND CITY, N.Y.

Inquire about our full line of Synthetic Rollers

LIGHTING *developments applicable to printing industry in 1939 are important — Fluorescent daylight lighting in windowless buildings — New photographic lamps.*

By R. L. OETTING*

**General Electric Company, Nela Park Engineering Department, Cleveland, Ohio*

LIGHTING developments for industry in general during 1939 were important, but only the important ones applicable to the printing industry will be discussed here. This does not take into account the Midget Sun Lamp announced some time ago important uses for which have been found in letterpress, offset-lith and gravure plate-making operations, nor the new GE 1500 w. copyboard lamp. Perhaps the widest application will be found for the fluorescent Mazda lamps together with the operating auxiliaries.

Fluorescent Mazda lamps are now available in a 48 in. length as well as the 18, 24 and 36 in. sizes. This longest member of the fluorescent family, however, is made in only daylight and white. A new balance of phosphors is being used in the white lamps to produce an improved, whiter light.

The line-up of operating auxiliaries is considerably expanded. A series of auxiliaries are now made that contain only the ballast or choke coil. They are used with glow-switch starters that are separate units and can be installed remotely from the ballast. The starter is often conveniently mounted in a specially designed lampholder which permits the starter's protruding through a reflector and yet being concealed by the lamp. Should a starter fail, it is as accessible as the lamps and the necessity of dismantling a fixture or opening an auxiliary case is eliminated.

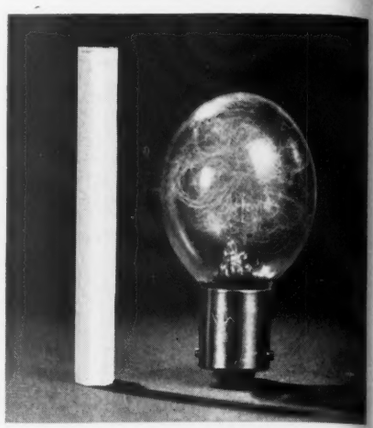
High power factor, quiet operation and small size are inherent features of the 30 and 40 w. Tulamp auxiliaries. They consist of two reactor windings and an auto transformer winding on a single core. Operation is on the "split-phase" principle with one lamp ballasted by a reactor only and the other by a reactor and a capacitor in series. The voltage regulation of Tulamp auxiliaries is good and they have an over-all power factor of 95 per cent or better. At the same time the stroboscopic effect is reduced because of the phase displacement between the two lamp circuits.

Fluorescent Lighting

Within the year, standards of fluorescent lighting rose greatly. Well designed installations now conform with all the principles and requirements of Light Conditioning. In the newer equipments, lamps are shielded from direct view, directional or diffuse distributions are provided as required, efficiencies are reasonably high, and modern materials are utilized in attractive designs. The program and products of the Fleur-O-Lier manufacturers is indicative of the present trend. Operation of this plan closely parallels that of the I.E.S. portable lamp certification program. Specifications covering principles of illumination, safety and mechanical construction were set up by the Mazda lamp manufacturers; an independent electrical testing laboratory was retained to provide a testing and inspection service which insures that equipments with the Fleur-O-Lier label meet specifications.

Windowless Building

Windowless buildings for printing plants have been objects of considerable discussion, their advocates enumerating controlled environment, flexibility of production line layout and longer hours of use per day as distinct advantages. The new plant of the Simonds Saw and Steel Company, Fitchburg, Mass., is a completely windowless building with air,

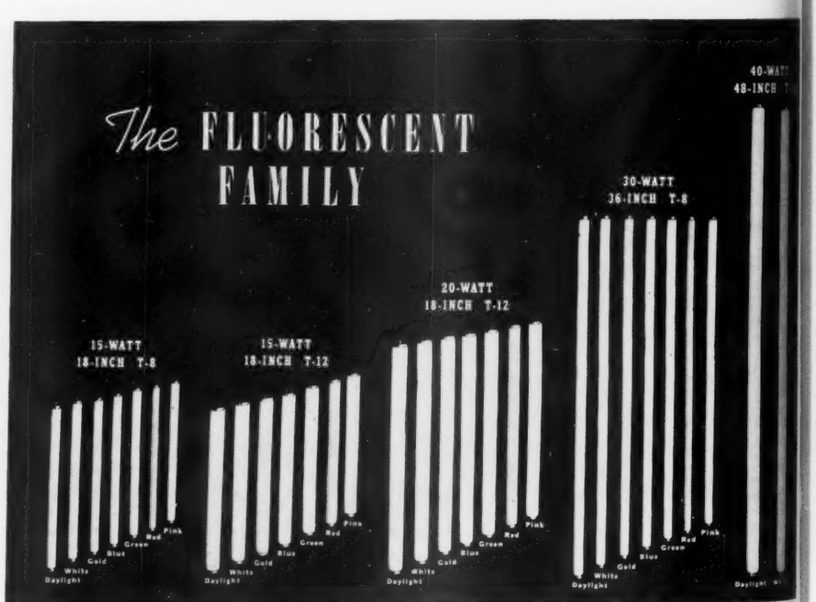


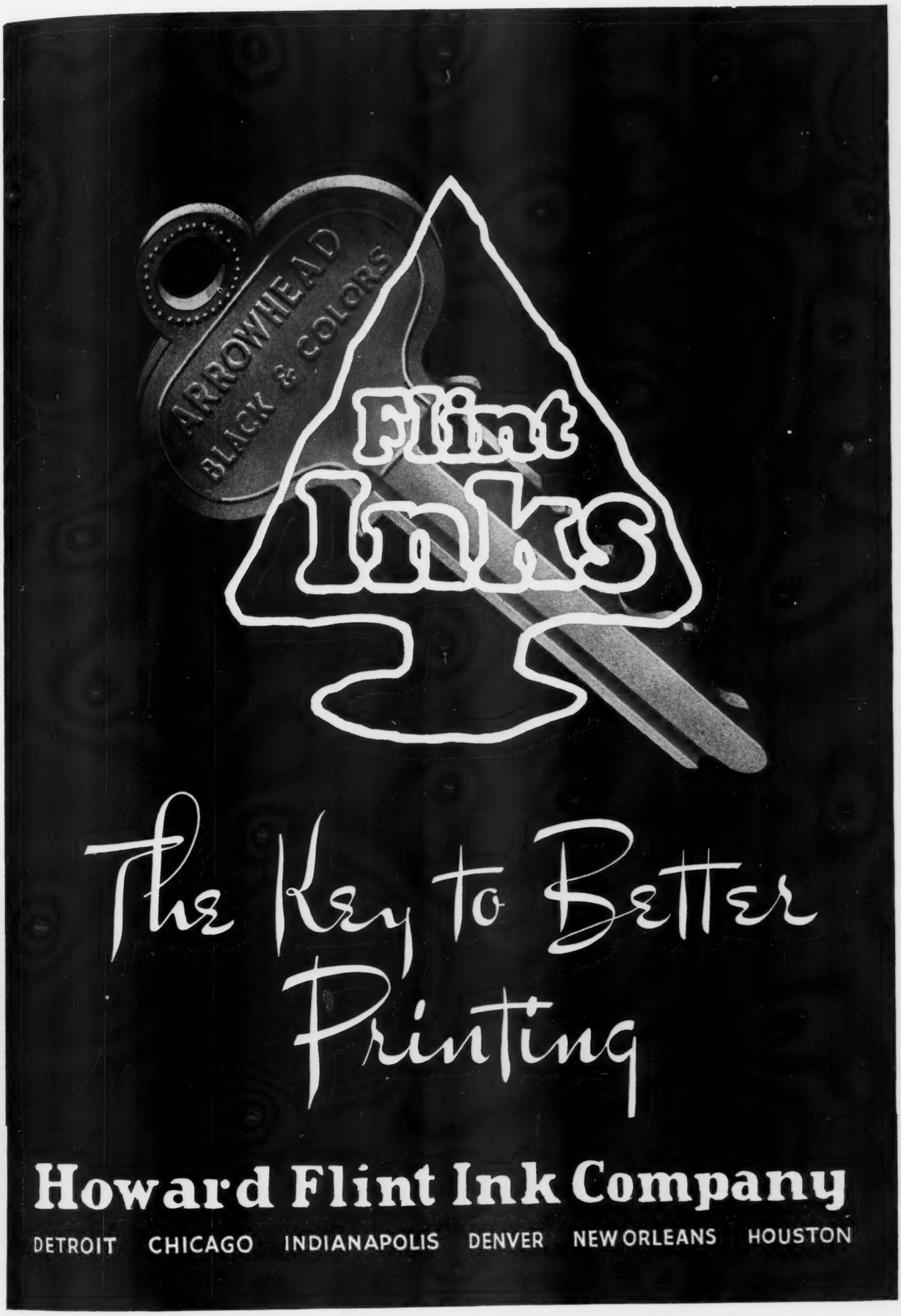
GE's Mighty Midget photoflash lamp. Shorter than a cigarette—about the size of a walnut. Packs a lighting wallop of a million lumens at flash peak.

heat, humidity, sound and light regulated to provide favorable working conditions for employes and a high degree of efficiency in manufacturing processes. The wiring and outlets for the lighting had already been completed when the 100 w. Cooper Hewitt fluorescent lighting unit became available. In order to use these new units and provide the

(*Continued on page 26*)

Chart shows comparatively the lengths and wattages now available in the Fluorescent Mazda Lamp tube line. Longest member (48 in.) is made only in daylight and white.




ARROWHEAD
BLACK & COLORS
Flint
Inks
The Key to Better Printing
Howard Flint Ink Company
DETROIT CHICAGO INDIANAPOLIS DENVER NEW ORLEANS HOUSTON

Keeping ipi in Touch

REPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION · FEBRUARY, 1940

Portrait of a Man Looking for Trouble in the Photomicrography Laboratory

That's what this man is doing, looking for trouble. Of course, the troubles he is looking for are the kind that bother pressmen—troubles that hinder the cause of finer printing. This picture was taken in the photomicrography laboratory. Quite a mouthful to say, but it's the section of IPI's Research Laboratories devoted to microscopic investigation of various printing problems.

The equipment here enables technicians to magnify cross sections of paper, for example, and then photograph these cross sections so that the penetration of ink into the paper and other details may be studied minutely. The photomicrography camera can photograph a tiny halftone dot so that it looks like a good-sized dried pea. By examining such magnified impressions, technicians can obtain valuable facts on how various types of ink print. For example, these photomicrographs show clearly that the quick-drying inks print much more cleanly than do slower-drying inks.

Basic research studies, like those possible in this photomicrography laboratory, are making possible developments that can help YOU produce better printing!

There may be no reason to associate these facts, but right after the Atlanta premiere of "Gone With the Wind," two Atlanta newspapers went with the Wind, too.

Note for Movie Goers

Have you seen "Keeping in Touch," the new IPI color movie? This film is available to Graphic Arts organizations, and it is being shown all over the country. If your local group would like to see it, write to us, and we'll be glad to arrange for a showing.

Foiled Again? Try These

Copper foil printing is tricky! The smooth, hard surface of the copper makes penetration negligible, and as every printer who has tried it knows, it's a real task to produce a nice looking job on this kind of a surface. But a beautiful example of foil printing rolled off the presses of the Kirby-Cogeshall-Steinau Co., Milwaukee, recently when they turned out some inserts for a customer who was advertising a new copper foil stock. Obviously, the job had to be good, considering the fact that it was designed to advertise the beauty of this new paper. Kirby-Cogeshall-Steinau used IPI Pyroxalin inks to help them achieve these handsome results.

CAMERA FANS LIKE GOOD PRINTING

New Photo Annual Contains Best Pictures of Year

It used to be that people were afraid to go into night clubs and burlesque houses for fear of being seen. Now they're afraid to go into such places for fear of being photographed. The all-seeing eye of the candid camera is everywhere, and photography enthusiasts in America are now as numerous as Democrats (though not necessarily of the same political beliefs).

One of the bibles of these modern knights of the lens is "U. S. Camera Annual." Since its first edition in 1935, this book has included the finest examples of American photography for each year. To do these fine pictures full justice, "U. S. Camera Annual" must be exceptionally well-printed. It always has been. The newest volume, just released, is "U. S. Camera Annual 1940." It was produced by the John P. Smith Company, Rochester. Both the color pages and the black and white section have been reproduced with a sparkle and lustre that compliments the original subjects.

What about ink? Glad you reminded us. Every edition of "U. S. Camera Annual" and every issue of "U. S. Camera Magazine" has been printed entirely with IPI inks.

Trylon Ahoy! Another Fair Year Offers Opportunities

When you read this, you won't be in any danger from sunstroke, and unless you are fortunate enough to live in the winter resort area, your golf game is just a memory at present. But this chilly weather is bound to pass (at least, it always has) and soon spring and the New York World's Fair 1940 will be upon us. It's going to be better than ever, says the management,

with new features rumored, like five cent hamburgers and a larger amusement area.

Once again, the Fair brings an opportunity to do a lot of printing for exhibitors—nearly all of the big 1939 exhibitors have contracted for 1940, and there will be some new firms represented on the "Enchanted Meadow" this year, too.

The Fair's color theme continues to be that special shade Orange and Blue. Remember this when you have a job for or about the Fair. And remember that IPI has the official Fair colors in standard inks, approved by the Fair color authorities. Roll out the Perisphere! Call the Crystal Lassies! We're ready, 1940!

Advertisement

PRECISION *is a relative term, but read what it means in Waverly Press Plant*

By WILLIAM M. PASSANO*

**Waverly Press, Inc., Baltimore, Maryland.*

PRECISION in a manufacturing process is a relative term. It differs in degrees depending upon the job to be done. A carpenter erecting studding for a house would be doing a precision job if he worked to a tolerance of plus or minus ⅛ in., despite the fact that this is a comparatively large dimension. The variation of a plus or minus the eighth of an inch in cutting the studding results in the timbers being assembled without fitting and in a finished product of high quality. These are the two important reasons for using precision methods in any manufacturing procedure and were the objectives sought by the Waverly Press when working out the technique of letterpress printing on a precision basis.

To perform every operation to a tolerance so close that subsequent adjustment is unnecessary; that is the definition of precision manufacturing, and in letterpress printing it means keeping type, cuts, forms and presses to a dimensional accuracy that virtually eliminates the need of makeready on press. There is nothing new nor startling in the principles of the Waverly Press methods. They are largely the result of ferretting out each factor subject to dimensional variations which would cause trouble on the press, and of controlling these factors.

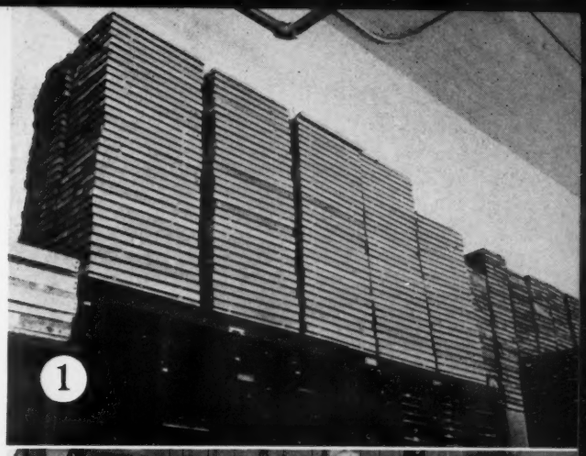
The first step quite naturally deals with the casting of the type. Monotype is used exclusively and all mats and molds are held to a tolerance of plus or minus 0.0003 in. All type is precision proved immediately after being set (on bed of press—not on galleys) and any defective letters are discovered and replaced at that stage of production, rather than waiting until the job is locked up on the bed of the cylinder press, which is the customary procedure.

All photoengravings and electrotypes are purchased unmounted. With the aid of a Hacker planer, a Hacker type high gauge and precision interlays, all plates are mounted to a tolerance plus or minus 0.001 in.

Forms are locked in chases cut from solid steel plates and the bars of these chases are parallel to a tolerance of plus or minus 0.0003 in. The quoins and furniture used are accurate to plus or minus 0.001 in.

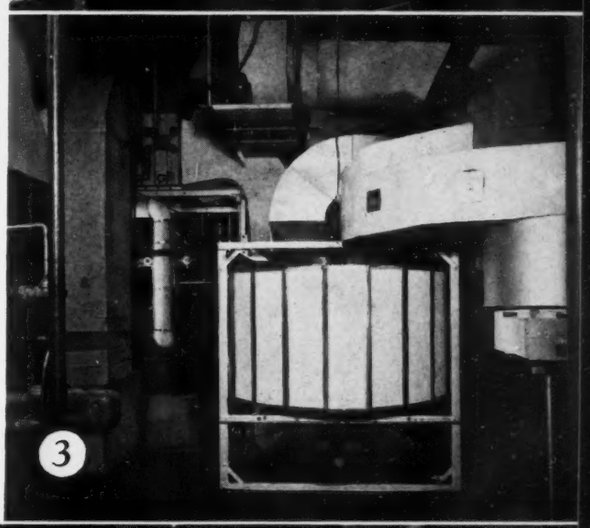
Annually, each cylinder press is checked with the aid of Hacker precision blocks—steel blocks accurate to 0.00025 in., and consequently capable of showing up the slightest wear which may exist in press beds or cylinders. This wear is

(*Continued on page 42*)



BLOCKING WOOD at the Waverly Press is thoroughly seasoned before use. The slabs are piled alternately with wooden slats so that air may circulate as much as possible about and between the slabs. All photo-engravings are purchased unmounted. They are mounted on seasoned wood brought to close dimensional limits with the aid of Hacker equipment.

MONOTYPE DEPARTMENT in Waverly Press, Baltimore. Here all matrices and molds are held to a plus or minus tolerance of 0.0003 in. Type is proofed directly on the bed of a precision proof press to detect defective characters BEFORE the form goes to press.



AIR CONDITIONING PLANT at Waverly Press, Baltimore, consists of a Silica Gel machine for removing moisture from air, a 40 T. Freon Compressor for cooling, and a large fan for distributing the conditioned air about the building — summertime operation. For winter operation, large heating coils and water sprays for adding heat and moisture to the air. The same fan is used in the summertime for distributing air around the plant.

LOCKUP AT THE WAVERLY PRESS, Baltimore. Forms are locked in chases cut from solid steel plates. Chase bars are parallel to a plus or minus 0.0003 in. — quoins and furniture are accurate to plus or minus 0.001 in.

Paper Problems

By LETTER P. OFFGRAV*

Variation In Papers

Our greatest trouble with paper is its lack of uniformity of finish — variation of color — variation of coating. The greatest variation seems to come in papers over 80 lb.

THE finish of coated paper is in general composed of two factors — gloss and smoothness. Uniformity of both within a reasonable range is essential to good printing. The two factors parallel each other to some extent, but it is possible to get one of them satisfactory and still have the other one out of line. For this reason both should be controlled in the manufacture of the paper. Possibly your trouble with finish variations is due to the fact that the mill making your paper is depending on one of these factors only in finish control. In past years gloss alone was controlled, and no doubt some mills still follow this procedure. It is suggested that you insist on uniformity of both gloss and smoothness.

Color variation in coated paper is usually confined to different shades of white, which may be caused by calendering. The amount of moisture in the paper as it goes to the calenders cannot be controlled to an exact degree. Some moisture is essential in getting the desired finish, but if there is too much moisture the paper darkens to an excessive amount in the calendering operation. Paper that is blackened in this manner should be eliminated in the sorting department at the mill. There is also bound to be very slight differences in color of the coating mixture from time to time, due to color differences in the pigments from one shipment to another and more particularly to the great difficulty in matching white shades at night. Colors matched at night seldom match those made in the daytime. This is also a common problem in the printing of four-color work. As in the case of blackened paper, while slight color differences cannot be entirely prevented, any paper that is too far off shade should be eliminated in the sorting department at the mill.

It is not entirely clear what is meant by variation in coating. In all probability the variation referred to comes under the above variations. Certainly the amount of coating and its composition in any one kind and delivery of paper should not vary sufficiently to be noticeable by the printer.

**Another in a series in response to problems propounded by mechanical and production executives in a questionnaire sent out by* Printing Equipment Engineer. *Mr. Offgrav will reply to additional problems in future issues.*

LIGHTING

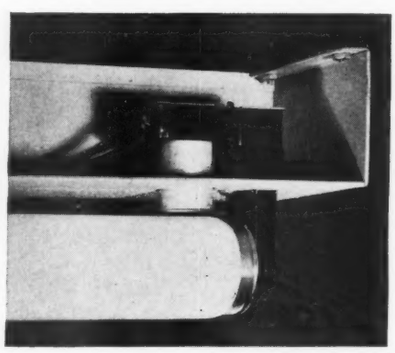
(*Continued from Page 22*)

specified illumination, two of them were installed at each of the previously allotted lighting locations. These positions are on 14 by 20 ft. centers and 16 ft. high. Eighteen hundred units have been installed to provide 20 footcandles of illumination.

Photographic Lamps

Heading the General Electric Mazda photoflash line is the "Mighty Midget" No. 5 lamp. This smallest lamp is shorter than a cigarette, has a bulb about the size of a walnut, yet packs a lighting wallop of a million lumens at the peak of its flash. In all, there are nine lamps in the line to provide a lamp for every type of camera, every phase of flash photography.

The recently announced R-2 photoflood lamp is a reflector-type lamp. It is similar in size, shape and construction to the familiar 150 w. R-40 reflector lamp but has a high efficiency, photoflood filament.



Starter for Fluorescent Mazda Lamp may be mounted in specially designed holder for accessibility in case of starting failure.

Color and Legibility

While black or yellow is by long odds the most legible of all color combinations, states the Color Research Laboratory of Eagle Printing Ink Co., and mighty suitable for highway signs, posters, counter cards, and the like, the combination is not recommended for books and magazines. Yellow rays will penetrate space better than white rays. However, any single hue, including yellow, builds up a strong after-image when seen persistently. This after-image, which is bluish in tinge, causes some visual and emotional distress that is not conducive to comfort over any period of time.

According to Eagle, black on white still reigns supreme in books and magazines. The black should be extremely intense and the white preferably soft in texture. Ivory and cream stocks are restful and desirable — but they cannot be considered superior to white.

PRINTING PATENTS REPORT

(Patents issued from Jan. 1st through Jan. 23rd)

This patent data is compiled exclusively for *Printing Equipment Engineer* by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading continuous from the last published issue of this magazine.

For copies of patents listed here, specify the patent numbers and send 10c each (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Bookbinding:

No patents issued.

Composing Machines:

2,186,801. SPOUTING SYSTEM FOR TYPE CASTING MACHINES adapted to collect and convey waste metal to a receptacle. Invented by George L. Curle, Minneapolis, Minn. Unassigned. Application March 24, 1938. 10 claims.

2,187,112. ASSEMBLER ENTRANCE PARTITION FOR COMPOSING MACHINES of the type having a main magazine and an auxiliary magazine mounted in side-by-side relationship. Invented by Henry H. Connor, Chicago, Ill. Assigned to Mergenthaler Linotype Co., 29 Ryerson St., Brooklyn, N. Y. Application Jan. 12, 1939. 17 claims.

2,187,278. TYPOGRAPHICAL MACHINE WITH IMPROVED DISTRIBUTOR MECHANISM, whereby the operator can shift the machine from one rate of distributing matrices to another, almost instantly. Invented by Clay E. Murray, near Davenport, Iowa. Assigned to Linograph Corp., Davenport, Iowa. Application February 4, 1939. 20 claims.

2,187,592. KEYBOARD for typesetting machines. Invented by Frank L. Paul, New York, N. Y. Unassigned. Application May 4, 1938. 1 claim.

2,188,252. JUSTIFYING AND VARIABLE SPACING TYPING MACHINE especially adapted for lithography or offset printing, the machine including a camera for photographing each printed line, and means for adjusting the camera toward and away from the work to automatically justify the completed lines to the same length. Invented by Samuel R. Nicks, Houston, Texas. Unassigned. Application August 26, 1937. 6 claims.

Feeding, Folding, Delivery:

2,185,440. PNEUMATIC SUCTION DEVICE for feeding and delivering sheets in a printing press of the Gordon or platen type. Invented by Lawrence R. Johnson, Cleveland, Ohio. Assigned to Chandler & Price Co., 6000 Carnegie Ave., Cleveland, Ohio. Application December 1, 1937. 3 claims.

2,185,652. SHEET SEPARATOR for lifting off the uppermost sheet of a pile of sheets of paper. Invented by George Spiess, Leipzig, Germany. Unassigned. Application September 13, 1938. 6 claims.

2,186,901. MACHINE FOR MAKING W-TYPE FOLDERS by feeding a paper sheet into a holding and supporting device and causing the central portion of the sheet to buckle in opposite directions by continually feeding the ends of the sheets toward each other. Invented by Gustav Ewald, North Tonawanda, and Burns T. McGary, Tonawanda, N. Y. Assigned to Remington Rand, Inc., 1939, Ensigner St., Buffalo, N. Y. Application May 1, 1937. 24 claims.

2,186,986. SHEET FEEDING DEVICE, particularly of the type used for automatically feeding sheets for photographically reproducing documents. Invented by Alexander W. Nelson, Belleville, N. J. Unassigned. Application November 18, 1937. 28 claims.

2,187,837. MULTIPLE ACTION DEVICE FOR COATING TRAVELING WEBS, particularly to be associated with a printing press for treating newly printed surfaces to prevent offset of the wet ink to a superimposed surface. In the invention, the area of the treating zone is selectively variable according to variations in the speed of the traveling web. Invented by Jens A. Paasche, Wilmette, Ill. Unassigned. Application November 19, 1936. 9 claims.

Miscellaneous:

2,185,738. METHOD OF MAKING PRINTING ROLLERS consisting of a natural rubber or synthetic rubber base with a flexible composition veneer of synthetic rubber or resin in which, despite the problems of vulcanizing such materials of diverse character, the cross-sections of the base and veneer are constant. Invented by Joseph Rockoff, Dayton, Ohio. Assigned to Dayton Rubber Mfg. Co., 10 Rubber St., Dayton, Ohio. Application March 16, 1937. 2 claims.

2,186,032. GAS BURNING FURNACE for setting "quick-drying" printing inks, wherein combustion of the solvent vapors of the ink takes place within the furnace, and the fuel supply manifolds are prevented from over-heating. Invented by Carl P. Mann, Riverton, N. J. Assigned to Interchemical Corp., 75 Varick St., New York, N. Y. Application December 30, 1937. 22 claims.

2,186,136. SELF ADJUSTING CLAMP FOR PAPER CUTTING MACHINES designed to clamp the paper automatically by spring pressure before the cutting knife reaches the paper. Invented by Walter C. Eickman, Dayton, Ohio. Assigned to Harris-Seybold-Potter Co., 4510 E. 71st St., Cleveland, Ohio. Application March 26, 1935. 21 claims.

2,186,512. LOCK-UP SET FOR HOLDING TYPE FORMS, such as Linotype slugs, cuts, etc., at various angular positions with respect to the side members of the printer's chase. Invented by Charles S. Wilson, Miami, Fla. Unassigned. Application September 27, 1938. 2 claims.

2,186,756. PRINTING INK capable of printing on bituminous bases without bleeding of the bitumen. Invented by John T. Hargrave, New York, N. Y. Assigned to Interchemical Corp., 75 Varick St., New York, N. Y. Application October 5, 1937. 5 claims.

2,187,211. ROTARY KNIFE PAPER SLITTER having means for protecting the working parts against lint. Invented by David R. McKinley and Peter J. Van Norden, Kalamazoo, Mich. Unassigned. Application June 12, 1939. 6 claims.

2,187,554. PRINT-FORM LINE-UP AND COLOR REGISTERING GAUGE with means whereby the gauge can be held fast at a cross rail or bar in a printing chase. Invented by Jacob G. Cook, Albany, N. Y. Unassigned Application November 29, 1939. 1 claim.

Especially designed rolls
assure accurate gauge

Especially designed precision rolls are used to produce A-Z Alloy and Zomo Electric Zinc. These rolls assure the uniform thickness of every sheet. Nothing, however, is left to chance—the close production control of these metals includes minute inspection every step of the way. From electric induction furnace to packing case, A-Z Alloy and Zomo Electric Zinc are made for ideal performance.

You can order Zomo Electric Zinc and A-Z Alloy, plain or BACKOTED, from leading metal suppliers in the United States, Canada, and England.

ZOMO ELECTRIC ZINC
A-Z ELECTRIC ALLOY

Trade Name Index *for Mechanical Executives — Use the new Trade Name Index (1058 items) published on pages 157-169, 1940 P-Double-E Reference Number.*

2,187,827. PAPER CUTTER SPACING MECHANISM capable of being set up to define the cutting position for a given series of cuts and to permit a repetition of the same series of cuts any required number of times. Device may be set up for closely adjacent cuts, and has means for automatically clearing the stops when a cut is made. Invented by Walter C. Eickman, Dayton, Ohio. Assigned to Harris-Seybold-Potter Co., 4510 E. 71st St., Cleveland, Ohio. Application December 15, 1937. 18 claims.

Plate Making:

2,186,945. METHOD OF PREPARING AND PRESERVING LITHOGRAPHIC PRINTING PLATES, involving a new, more effective agent for both treating the plate bearing the image preliminary to printing, and as a dampening fluid for application to the plate during printing. Invented by William H. Wood, Bedford, Ohio. Assigned to Harris-Seybold-Potter Co., 4510 E. 71st St., Cleveland, Ohio. Application June 16, 1937. 23 claims.

2,186,946. METHOD OF TREATING LITHOGRAPHIC PRINTING PLATES with water-dispersible polymeric carboxylic acid products. Invented by William H. Wood, Bedford, Ohio. Assigned to Harris-Seybold-Potter Co., 4510 E. 71st St., Cleveland, Ohio. Application February 10, 1938. 20 claims.

2,187,106. MACHINE FOR PREPARING AND REGISTERING SEMI-CYLINDRICAL PRINTING PLATES to be used on rotary presses, especially for use where color printing is involved and it is desired to preregister the plates before placing them on a series of printing cylinders. Invented by Isidor Tornberg, Plainfield, N. J. Assigned to Wood Newspaper Machy. Corp., 688 Sand St., Plainfield, N. J. Application December 11, 1935. 21 claims.

2,187,444. FULLY AUTOMATIC PLATE-FINISHING MACHINE for stereotype tubular plates, with means for eliminating any of the automatic operations if desired. Invented by Herbert B. Behrens, Battle Creek, Mich. Assigned to Duplex Printing Press Co., Battle Creek, Mich. Application April 19, 1937. 27 claims.

Printing Presses:

2,185,223. SCRAPER BLADE OR DOCTOR WITH HARDENED SURFACE for coating machines designed to apply ink or other coating liquid to a traveling web. Invented by Horace J. Paynter, Union, N. J. Assigned to Amer. Can Co., New York Central Bldg., New York. Application November 23, 1938. 5 claims.

2,185,310. ROTARY "NON-STOP" PRINTING MECHANISM by means of which a printing plate or type, usually for late news, can be added without having to stop the machine. Invented by Cecil G. Quick, Charles H. Skinner and Morris E. B. Evans, London, England. Assigned to R. Hoe & Co., Inc., East River and 138th St., New York, N. Y. Application May 7, 1938. 12 claims.

2,185,342. METHOD AND MEANS FOR INKING A PRINTING FORM which is operably engaged by a form roller, by supplying ink directly in controlled quantities to areas of the form roller from which ink has been previously removed by contact with the image producing portion of the form, and removing excess ink from the form rollers and supply instrumentalities. Invented by George M. Keller, Rochester, N. Y. Assigned to R. Hoe & Co., Inc., East River and 138th St., New York, N. Y. Application July 28, 1937. 37 claims.

2,185,743. PRESSURE SYSTEM FOR THE CYLINDERS OF A PRINTING PRESS, including a safety mechanism to relieve the pressure if an object which would damage the cylinders should enter the press. Invented by Lyman P. Albaugh, Des Moines, Iowa. Assigned to Meredith Publishing Co., Des Moines, Iowa. Application Jan. 22, 1937. 2 claims.

2,185,766. PRINTING PRESS CYLINDER having an outer rim of porous ceramic material for removing excess ink from the printed sheet. Invented by Kenneth W. Higby, Englewood, N. J. Assigned to Carborundum Co., Francis and Bowman Sts., Niagara Falls, N. Y. Application January 3, 1938. 11 claims.

Re. 21,319. PRINTING MACHINE WITH IMPROVED WEB SPLICING MEANS and means for controlling pressure on the printing couple during splicing. Invented by Isidor Tornberg, Plainfield, N. J. Assigned to Wood Newspaper Machy. Corp., 688 Sand St., Plainfield, N. J. Original No. 2,096,869. Application for reissue August 31, 1939. 18 claims.

2,185,998. TYPE BED CONSTRUCTION claimed to eliminate warping or distortion due to wide temperature variation. Invented by Samuel A. Huffman, Ben Avon, Pa. Assigned to Miller Printing Machy. Co., 1117 Reesdale St., Pittsburgh, Pa. Application October 19, 1937. 10 claims.

2,186,042. ATTACHMENT FOR TWO-REVOLUTION FLAT BED PRINTING PRESSES whereby printing in at least three colors can be done at each cycle of operation of the press. Invented by Harvey H. Predmore, Portland, Oregon. Assigned to Albert E. Pearsall, Vancouver, B. C., Canada. Application March 15, 1939. 5 claims.

2,186,113. HYDRAULIC DRIVE AND CONTROL FOR NEWSPAPER PRESSES, claimed to give substantially the same control of the press as would an electric system. Invented by Eric H. Laabs, Milwaukee, Wis. Assigned to Cutler-Hammer, Inc., 1339 W. St. Paul Ave., Milwaukee, Wis. Application February 9, 1939. 20 claims.

2,186,513. MARGIN BAR FOR PRINTING CYLINDERS designed to allow for varied lengths of plates and for the plate to "grow" on the cylinder. Invented by Henry A. Wise Wood, New York. N. Y. Assigned to Wood Newspaper Machy. Corp., 688 Sand St., Plainfield, N. J. Application November 19, 1936. 2 claims.

2,186,764. PRINTING CYLINDER with improved means applying and securing rubber blankets or printing plates thereto. Invented by Charles A. Meisel, Milton, Mass. Assigned to Meisel Press Mfg. Co., 949 Dorchester Ave., Boston, Mass. Application March 29, 1938. 7 claims.

2,186,914. MULTIPLE PRINTING PLATE FOR PRINTING IN A PLURALITY OF COLORS, consisting of a plurality of separate cuts, and actuating means for moving all of the cuts printing in one color to contact one set of inking rolls, and all cuts printing in another color to contact another set of inking rolls, and means for returning all cuts to alignment prior to each printing operation. Invented by Frederick Shurley, Windsor, Ontario, Canada. Assigned to Guthrie Ceramic Labelling & Machy. Co., Inc., Dover, Del. Application June 27, 1938. 11 claims.

2,187,293. MEANS PROVIDING FOR ADDITIONAL ADJUSTMENT OF A PLATE after it has been mounted on the cylinder of a multi-color press, involving the use of a plate carrier or "turtle" instead of mounting the plate directly on the cylinder. Invented by Henry A. Wise Wood, New York, and Perry R. Long, Larchmont, N. Y. Assigned to Wood Newspaper Machy. Corp., 688 Sand St., Plainfield N. J. Application June 4, 1936. 18 claims.

2,187,420 METHOD OF TWO-TONE GRAVURE PRINTING, wherein a resilient doctor blade is so arranged with relation to a gravure plate as to leave a thin, uniform film of ink over the entire surface of the plate, so that on printing, the entire surface is tinted at the same time that the etched portion of the plate deposits a deep colored design. Invented by Fred George, Lakewood, Ohio. Assigned to Interchemical Corp., 75 Varick St., New York, N. Y. Application December 28, 1937. 1 claim.

2,187,421. IMPROVED DOCTOR BLADE for removing excess ink from intaglio printing plates or cylinders. Invented by Fred George, Lakewood, Ohio. Assigned to Interchemical Corp., 75 Varick St., New York, N. Y. Application January 5, 1937. 13 claims.

2,187,722. PRINTING MACHINE for simultaneously printing forms or designs on one or more webs, wherein the printing units may be swung upwardly to afford free access to the parts. Invented by Clayton E. Wyrick, Wyandotte, Mich. Unassigned. Application August 29, 1936. 48 claims.

2,187,758. RECIPROCATING BED MOTION FOR PRINTING PRESSES of the flat bed and cylinder type, whereby the bed may be oscillated through a complete cycle, the greater portion of the movement in at least one direction being at constant speed. Invented by Frederick W. Seybold, Westfield, N. J. Assigned to Amer. Type Founders, Inc., Elizabeth, N. J. Application July 7, 1938. 19 claims.

2,187,759. RECIPROCATING BED MOTION FOR PRINTING PRESSES wherein the printing stroke is carried out at constant velocity, the return stroke being more rapid and effected at a continually varying velocity. Invented by Frederick W. Seybold, Westfield, N. J. Assigned to Amer. Type Founders, Inc., Elizabeth, N. J. Application July 7, 1938. 11 claims.

2,188,148. ROTARY PHOTOGRAVURE PRESS with novel means for effecting and controlling movement of the impression roller and its pressure cylinder. Invented by Charles A. Harless, Oak Park, Ill. Assigned to Goss Printing Press Co., 1535 So. Paulina St., Chicago, Ill. Application April 19, 1935. 32 claims.

2,188,219. INK FEED MEANS FOR PRINTING PRESSES, wherein the ink is placed under pressure sufficient to prevent "backing up." Invented by Otto G. Bushman, Salt Lake City, Utah. Unassigned. Application March 22, 1938. 5 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Barrister Bldg., Washington, D.C.

Intertype Notes

J. H. (Fitz) Fitzgarrald has been appointed to represent Intertype Corporation in San Francisco. Mr. Fitzgarrald learned his trade in Clay Center, Kansas, where he was born, and worked in numerous plants in Montana and on the coast. M. E. Van, whom he replaces, has been given the position of office manager of Intertype's San Francisco office.

Howard N. King, typographic consultant for Intertype Corporation, addressed Buffalo Craftsmen on January 11. Next noon-day he spoke before the Columbus Ad Club and the Columbus Craftsmen at night. His February schedule includes an address before the Worcester Trade Schools on the 15th, and a talk to the Merrimac Valley Craftsmen. February 16 he will address the Buffalo Ladies Ad Club.

Executive Changes

Clarence Rinne is Mechanical Superintendent of the Syracuse (N.Y.) *Herald.*

William Govier is Production Manager of the Buffalo (N.Y.) *Courier-Express.*

Superintendent of Copifyer Litho Corporation in Cleveland is William C. Stone.

S. A. Reeves, formerly associated with Donaldson Litho Co. in Newport, Ky., is now Pressroom Foreman of Cleveland's Morgan Litho Co.

Al Sherry, for some time, has been Pressroom Foreman of Art Gravure Corporation, Cleveland plant.

Tom Wier is Mechanical Superintendent of the Washington (D.C.) *Post.*

Linotype Notes

Joseph H. Hughes, who has been with the Mergenthaler Linotype Company fifteen years has been made manager of the overseas sales division.

Harry L. Gage, vice president of Mergenthaler Linotype Company, has been awarded the Harry J. Friedman memorial medal for distinguished service in the cause of graphic arts education. The presentation was made at the graduation exercises of the vocational high school department of the New York School of Printing, at Textile High School, New York, Wednesday evening, January 24.

★ When you are in the market for equipment or supplies for your plant, and want information and details, use the

"1940 Where to Buy"

ISSUE OF

PRINTING EQUIPMENT Engineer

as a source of information. In the back of the "Where To Buy" Issue are handy postage paid return cards which will, when filled out, bring you complete information on all advertised equipment and supplies. We will be happy to help you do your shopping.

AN EASY WAY TO ANSWER ADVERTISEMENTS

Each month our advertisers offer valuable technical and general information on their products for the Mechanical and Production Executives. For your convenience, the post-card page in the back of each Issue contains a list of the various samples, booklets and data offered. Just fill out the postage-paid return card, designating the information or literature you desire, and mail it. We do the rest. The information you want will be promptly forwarded to you. There is no obligation.

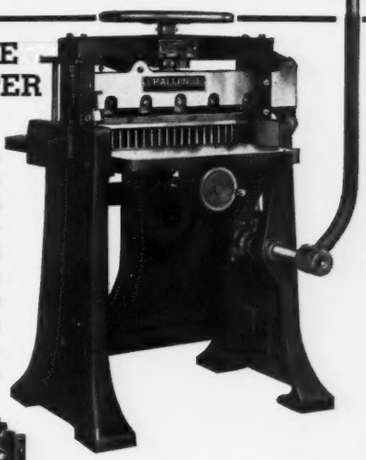
★

When you write directly to our advertisers, please mention PRINTING EQUIPMENT Engineer. We'll appreciate your courtesy and thoughtfulness.

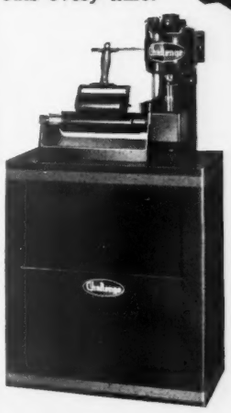
Economize with....

CHALLENGE EQUIPMENT

CHALLENGE LEVER PAPER CUTTERS



Made in two sizes, 26½ and 30½-inch, these powerful lever cutters reduce physical effort and insure economy. The table is supported by a solid center piece —no sag—last sheet cuts every time.

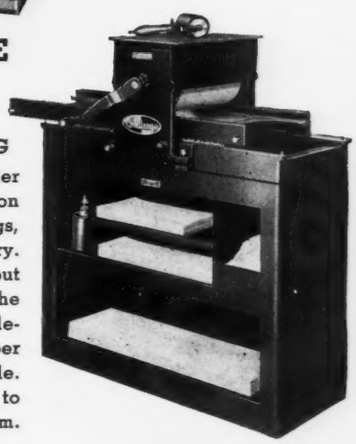


CHALLENGE POWER INK DISTRIBUTOR

Every print shop needs one! Saves time . . . makes it easy to ink hand rollers. You simply set a roller on the revolving metal cylinders, and in a jiffy it's uniformly inked. Unit is motor powered. Made in 10 and 20-inch sizes. Stand optional.

CHALLENGE PROOF PRESSES

SERIES C and CG



Built like a cylinder press—bed rolls on anti-friction bearings, cylinder is stationary. Two styles: C, without grippers; CG, with the Challenge register device with bed gripper and adjustable guide. Sizes from 12x18 to full newspaper form.

CHALLENGE HI-SPEED QUOINS

Two do the work of 5 to 8 ordinary quoins. Operated by one turn of key, self-locking, cannot slip. Made of cadmium plated steel, each one a self-contained unit. Six handy sizes. ●Write for further data on above items.

The Challenge Machinery Co.

GRAND HAVEN, MICHIGAN 339

CHICAGO, 17 E. Hubbard St. 200 Hudson St., NEW YORK

Variable Speed Collating Table

By FRANCIS A. WESTBROOK, M. E.

THE Christian Board of Publication, St. Louis, Mo., has recently completed the installation of a circular collating table which is used for assembling printed sheets for loose-leaf tracts and other literature. A feature of this table is that it is motor-driven through a mechanical variable speed transmission by means of which it can be operated anywhere between 1½ and 4½ r.p.m. according to the work in hand and the number of girls at the table. The table is shown in action in Fig. 1 and the under part with the variable speed motor unit is shown in Fig. 2.

There had been some idea of using a worm drive in order to bring down the speed of the motor to the desired point, but further consideration made it evident that the use of the variable speed unit with the bevel gear, as seen in Fig. 2, would make a simpler and less expensive installation. The table was built by the Pavyer Printing Machine Works.

Fig. 1—View of collating table in plant of Christian Board of Publication, St. Louis, Mo. Speed of rotation can be regulated anywhere between 1½ and 4½ r.p.m. Table is used for assembling printed sheets for loose-leaf tracts and other literature.

Integrates Photographic Exposures

To eliminate the inaccuracies of the trial-and-error method of measuring photographic time exposures, General Electric Company has developed a precision instrument called the G-E Totalux. This device will find extended use in timing exposures of from one to twenty minutes in work requiring close limits, such as photo-engraving, lithography, and blue-printing.

Photo - engraving and lithography necessitate compensation for light-intensity fluctuations, particularly when carbons arc are used as light sources. In this case, light-intensity variations occur because of voltage fluctuations and carbon density differences. Here the G-E Totalux controls the exposure by automatically increasing or decreasing the time according to the variations occurring in the intensity of light source.

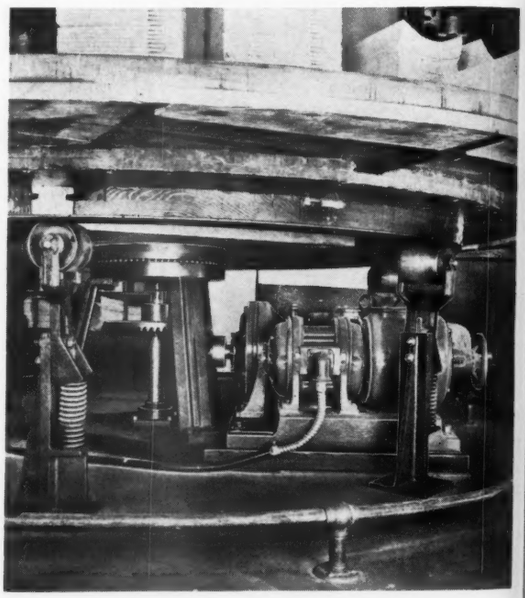


Fig. 2 — Underneath view of special collating table used in plant of Christian Board of Publication, St. Louis, showing variable speed driving arrangement through bevel gear.

The new G-E Totalux consists of a light-sensitive element and a control box, on the front of which are a switch and an adjusting dial. The light-sensitive element is placed to receive light from the source being used to make the photographic exposure. The adjusting dial is calibrated in 100 divisions. Once the number of divisions corresponding to the exposure time has been determined, the dial may be set to this number regardless of the intensity of the light source. After the dial has been set and the light turned on, the dial will move toward zero. When the zero position is reached, an auxiliary relay operates contacts which either turn off the light or sound an alarm, thus obtaining an exposure proportional to time and light intensity.

Although designed for 115 v. and 50-60 c., the Totalux can also be adapted to other frequencies and voltages. Weighing about 16 lbs., the equipment is about 8 in. by 10 in. by 7 in.

The VITAL LINK

IN THE CHAIN OF PERFECT REPRODUCTION

Deep Molds

WOOD DRY MATS — ALWAYS UNIFORM

Wood Dry Mats bridge the gap of reproduction quality loss between engraving and printing by holding every detail. They're the popular favorite because they can be relied upon to do their job perfectly. For deep molds and clean plates—try Wood Mats. Sample lot free upon request.

For

WHITE HIGHLIGHTS • SOLID BLACKS
TRUE HALFTONES & MIDDLETONES
DEEP MOLDS • CLEAN PLATES

WOOD DRY MATS

For twenty-five years the standard of quality among stereotypers who demand the best in mats. America's first domestic dry mat!

25th ANNIVERSARY 1915 WOOD DRY MATS 1940 — WOOD FLONG CORPORATION

WOOD FLONG CORP.

HOOSICK FALLS • NEW YORK

WATTA BRUTE!
WATTA BEAUT!

"Watta brute . . . Watta beaut! Single column to full page mats — perfect casts in every respect with the minimum of effort. Its sturdiness and ease of operation are revolutionary" writes Mr. Guy V. Morthimer of Lehighton, Pa., Evening Leader.

EK8-P

Model EK8-P is the combination of an 800 lb. valve-controlled melting pot with the fastest and most accurate automatic full page caster made. Model EK-8 is for the plant equipped with a large metal furnace.

EK-8

R-3

SENSITIVE AS A FEATHER

The Hammond R-3 Radial Router with Straight-Line Feature is guaranteed to do your job . . . Try it for two weeks at our expense. Price — $325.00.

WRITE for prices, terms, descriptive matter, lists of users and trade-in allowances. No obligation.

Hammond Machinery Builders INCORPORATED
KALAMAZOO, MICHIGAN, U.S.A.
1604 DOUGLAS AVENUE

MAINTENANCE RECORD FOR THE 2 SMALLER COMPOSING ROOM

LINOTYPE REPAIR RECORD

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CLEAN:—												
Escapements												
Keyboard Cams												
Spaceband box												
Assembler and Slide												
First Elevator Jaws												
Molds												
Pot Mouthpiece												
Gas Burner												
Second Elevator Bar												
Distributor Box												
Distributor Screws												
Driving Clutch												
RENEW:—												
Rubber Rolls												
Keyboard Belt												
Assem. Driving Belt												
Matrix Belt												
Matrix Catch Spring												
Assembler Star												
Assem. Elev. Buffer, front												
Assem. Elev. Buffer, back												
Assem. Slide Brake Shoes												
First Elev. Jaw Pawls												
Mold Wiper, front												
Mold Wiper, back												
Back Knife												
Distributor Belt												

Oil and grease motors and machines every two weeks.

Graphite grease front and back mold wipers twice a week.

Clean plunger and well twice a week.

ASSEMBLING DRIVING BELT
Model 1—C-161
Model 2-4-5—C-264
Model 8-14—D-2626

MATRIX DELIVERY BELT
Model 1—D-393
Model 2-4—D-865
Model 3-5—D-756
Model 8—D-865
Model 14—D-2696

This line-composing machine maintenance record card, devised by Machinist Jellison of the Newburyport (N. Y.) Daily News, and bearing the number of the machine behind which it hangs, is a running commentary.

EVERY reason exists as to why machinery in the smaller printing plant should receive intelligent care under controlled conditions as is done in large printing plants. It's a question of getting maximum production with the least effort. There isn't any distinction to be drawn between the large and the small plant regarding maintenance.

It is a pleasure to hear from the smaller printing plants with evidence that executives in these plants do take care of their equipment in thoroughly modern fashion. Such an instance is the composing machine maintenance system employed by Machinist Percy R. Jellison of the Newburyport (N. Y.) *Daily News*.

Mr. Jellison states that approximately eight hours per week are available for servicing the five linotypes in the *Daily News* plant. From this statement it will be seen that the maintenance work must be managed carefully.

To facilitate maintenance work of the composing machines, Mr. Jellison prepared a number of charts, 8½ in. by 12½ in. with the machine number for each machine printed in 48 pt. figures in the upper left-hand corner of each card. A card bearing the corresponding machine number is hung back of each machine. As the various maintenance operations are completed, the dates are marked in the proper box. It is an easy matter to inspect the card back of any machine to determine if certain work has been done.

Some Personages In the Printing Industry — Perhaps You've Met 'em

1—R. O. Vandercook, with his personal secretary, pays a visit to the editor's office.

2—Harold Burns, Service Department, Edes Mfg. Co., is not making a speech. He was snapped on a recent Cleveland visit.

3—Chas. G. Colbert, Composing Room Superintendent of the Philadelphia Bulletin, seems to maintain his good humor even at edition closing up time.

4—Apparently, George Morrison, President of Milwaukee Saw Trimmer Corporation, is receiving some good news.

5—Mr. and Mrs. Cushman (Abe and Vera) by reason of attending some of the mechanical conferences, have become well acquainted with mechanical executives.

6—J. C. Dunn, Sales Manager, Vulcan Proofing Company, looks over the latest issue of Printing Equipment Engineer.

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots. Stand-A-Lone Holders 2 for 25c, per doz. $1.00.

Foreign Distributors:
SEARS, LTD.
Toronto, Montreal, Winnipeg, Vancouver, Canada
JUNGER & JUNGER
Goteborg, Sweden

When used according to directions, **BOOTH'S ZINK CUT CEMENT** *is the fastest cut-mounting means in existence.*

(1) See that back of cut is free from grit and greasy substance.

(2) Apply several patches according to size of cut. Allow cut to be exposed to air for half minute. Spread cement with rule or a lead.

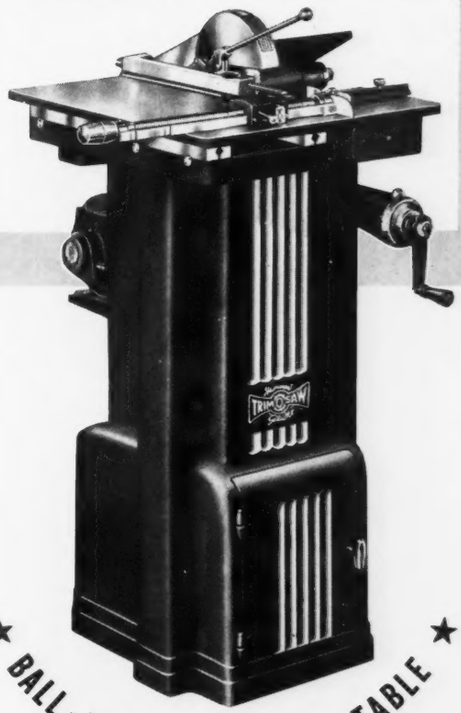
(3) Press cut firmly on base with slightly rotating motion—and there you are!

For cuts to be mounted on wood base, simply apply a slightly greater amount of cement and expose to air for a full minute before pressing cut on base. Best results are obtained when cut, base and the cement are of room temperature (at least 70 degrees F.).

E. A. BOOTH RUBBER CO.
364 Rockefeller Bldg. • Cleveland, Ohio

Only HAMMOND

makes the popular Glider TrimOsaw . . . and only the Glider gives you so many profit making features ★ ★ ★ ★



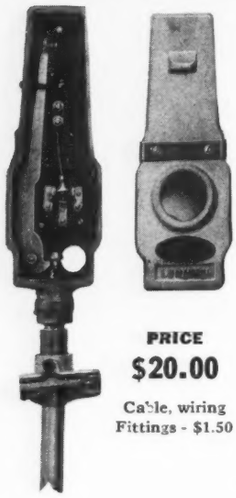
★ BALL-BEARING "GLIDER" TABLE ★

WE GUARANTEE the Hammond Glider TrimOsaw to perform every composing room operation faster and better than any other saw, and where kept busy 25% of the time to create time and labor savings that will repay its purchase price in a year's time or less.

4 MODELS . . . 11 STYLES. There is a Glider Model to meet your specific need.

Hammond Machinery Builders INCORPORATED
KALAMAZOO, MICHIGAN, U.S.A.
1604 DOUGLAS AVENUE

LUDWICK THERMOSTAT



FOR

LINOTYPE
INTERTYPE
MONOTYPE
ELROD AND
LUDLOW
ELECTRIC POTS

★

PRICE
$20.00
Cable, wiring Fittings - $1.50

A simple, inexpensive control in general use throughout the country. Regulation may be made to within 5°.

ONE-PIECE CHROMALOX HEATING UNIT

REPLACES *BOTH* INSIDE HEATING ELEMENTS IN LINOTYPE ELECTRIC POTS

ONLY
$30.00
EACH

Heats up more quickly — easier to install and remove. Thicker casing — More durable. This improved unit is rapidly replacing the older type two units in all progressive composing rooms. . . If you want to replace your belts less often, order ACE cord-rubber stretchless belts, for matrix delivery — Assembler drive — Distributor — Intermediate, etc.

Precision
TRADE ★ MARK
Parts

LINOTYPE PARTS COMPANY

NEW YORK
203 Lafayette Street

KANSAS CITY
314 West 10th Street

Chicago 318 West Randolph St.
Minneapolis 503 Fourth Ave. South
Denver 1441 Blake St.

One Word She Dropped From Her Vocabulary

Answering daily inquiries, the department phone girl used to say, "The home edition generally goes to press at 1:20." Now, she has quit saying, "generally." Better morale, firmer regard for rules, plus the change to Certified Mats has made press hour as regular as the clock.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza, Dept. M
New York, N. Y.

Certified
DRY MATS

Linotone All-Steel Cylinders

IT IS estimated that the life of Linotone All-Steel Engraved printing cylinders for relief and rotogravure printing is approximately 15,000,000 impressions. At the present time 4,400,000 impressions have been obtained from some of the cylinders without visible wear.

These cylinders are used in rotary letterpress and rotogravure printing presses for printing package and box wrappers, textiles, labels, paper bags and boxes, and fancy papers. Cylinders may be produced which bear imitation leather and snake skin designs. Halftone blow-ups containing multiple scenes for candy box wrappers may also be produced. The company has developed a method of making mother of pearl and polka dot designs with solid background on Linotone cylinders in continuous pattern, completely around the cylinder.

Linotone cylinders, it is stated, are produced at the equivalent price of those made from copper and last from 3 to 4 times as long. They are said to be three times as hard as copper and have a Brinnell test of between 160 to 170. The cylinders produced for printing by gravure, 150 line screen, are said to possess an "anti-crowding edge" in the screen design cells against the action of the doctor blade. All cylinders are chromium plated.

The design put down on Linotone cylinders is executed by the photo-engraving fish glue process. In color work and in multiple design cylinders, the patterns are laid both across and around down by means of a mechanical step and repeat metal printing machine. Cylinders are furnished for all types of rotary presses, including Chambon, Weiss and Hyroto presses. Maximum diameter of cylinder furnished is 36 in.; maximum length is 48 in.

On letterpress cylinders, using 85 line screen halftone, etching depth is approx. 0.010 in. Routing depth is 0.050 in. On rotogravure cylinders, using 150 line halftone screen, etching depth is approx. 0.00125 in.

A New Home For St. Paul Papers

PLANS to move the St. Paul (Minn.) *Dispatch* and *Pioneer Press* into a half-million-dollar newspaper publishing plant were announced recently by officers of Northwest Publications, Inc. Purchase of the real estate property involved $327,000. Additions, improvements and changes will involve more than $250,000. Structural changes will include complete remodeling of the building front. The building now occupied by the Gokey Company will be built into the new structure by adding new floors and an entirely new fourth floor will be added to the enlarged building. Air conditioning and fluorescent lighting will be provided.

The pressroom, mailing room, stereotype foundry and machine shops will remain in the present press building on which another floor will be added and which will be connected with the main building by a tunnel under the street.

Space on the third floor of the new building will be occupied by a modernized composing room, new engraving room and stereotype job department.

A tunnel 8 ft. wide, 7 ft. high and 70 ft. long, equipped with a narrow gauge track for transporting paper rolls direct to press reels, will be constructed underneath the street.

In this tunnel there also will be a special matrix conveyor of new design which will carry mats from the stereotype job department on the second floor to the stereotype foundry. The foundry is to be re-located on a floor which is on the same level as the pressroom. Papers will be transported from the presses, by conveyors, to a mailroom which will occupy a newly constructed second floor on the press building. This mailroom will extend beyond the pressroom, in the rear, to overhang a delivery loading dock to which paper bundles will be delivered by gravity chutes.

"THROW AWAY THAT SCRUBBING BRUSH"

EDES ROTO-GRIP *is here!*

A scientifically designed machine gives practical — and extremely accurate — results in preparing an ideal surface for engraving. It produces a gauge that does not vary more than ½ of 1/1000 inch throughout the whole plate. It has no one-way grinding grooves — no long waves or bumps. It has a perfect, all-direction tooth that grips enamel firmly, lastingly. The identifying track of this machine are the rotary shadows that show movement back and forth across the plate — duplicating the motion commonly used by the man in the shop when he "pumices" a plate.

The engraver has been tolerant of the medium with which he has had to work in the past.* He no longer need be. He can ask for and receive a better medium upon which to demonstrate his skill—ROTO-GRIP. Ask the Edes Representative.

WITHIN .0005" OF ABSOLUTE GAUGE

*Former Gauge Variation .002" or Greater. NOW WITHIN .0005" OF ABSOLUTE GAUGE

THE EDES MANUFACTURING CO. • PLYMOUTH, MASS., U. S. A.

AUTHORIZED REPRESENTATIVES

CHICAGO: Chemco Photoproducts Co.
NEW ORLEANS: Chemco Photoproducts Co.
ST. LOUIS: Mid-West Photo Eng. Supply Co.
WASHINGTON, D. C.: E. H. Walker Supply Co.
BOSTON: Allan B. Croke Co.
BUFFALO: C. S. Illingworth
DETROIT: Eaton-Clark Co.
AKRON: Metzger Photo Supply Co.
CINCINNATI: G. C. Dom Supply Co.
SAN FRANCISCO: Selby Mohr
ATLANTA: Lamar-Rankin Co.

(DENVER OMAHA MINNEAPOLIS KANSAS CITY TULSA OKLAHOMA CITY WICHITA DES MOINES MEMPHIS HOUSTON DALLAS SAN ANTONIO) Thompson-Hayward Chemical Co.

DID YOU KNOW?

DID YOU KNOW that proper casting temperature ranges for good metal are: Slug machines 540°—550° Standard Monotype 650°—800° • Stereotype 575°—625°

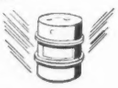
•

DID YOU KNOW that skimming stereotype metal at temperatures above 725° gives excessive antimony losses?

DID YOU KNOW that a one-inch blanket of dross on the stereotype pot is ideal for dross accumulations?

•

DID YOU KNOW that a hollow slug is sometimes caused by a worn plunger?



DID YOU KNOW that Imperial originated the dross drum practice?

•

DID YOU KNOW that blisters on monotype are generally the result of too much *speed?*

•

DID YOU KNOW that over

41%

of all type metal used in the U.S.A. is furnished by Imperial?

•

DID YOU KNOW that the condition of *your* type metal is Imperial's responsibility—as soon as the first pound of Imperial enters your plant?

DID YOU KNOW that the booklet "Type Metal Problems and Their Solution" is sent on request to anyone in the printing field?

IMPERIAL TYPE METAL CO.

Philadelphia • New York • Los Angeles • Chicago

Imperial

TAKES THE GUESS OUT OF TYPE METAL

A Laboratory Product

BURGESS *Chrome* MATS

You're sure of the depth and detail that makes for higher printing capacity when you use Burgess Chrome Mats . . . . .

210

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess *Chrome* and *Tone-Tex* Mats

FREEPORT • • • ILLINOIS

Pacific Coast Representative

RALPH LEBER CO.

426 Polson Bldg. Seattle, Washington

Every Plant Needs Them

TRY THE SENSATIONAL NEW

***Zephyr* BLACKS**

These inks represent a complete new chemical achievement. Based on the principle of polymerization, they are unlike any other product on the market.

- **SET *in 60 seconds.***
- **BACK UP *in 30 minutes.***
- **BONE DRY *in an hour.***
- **ZEPHYR BLACKS *are perfected in three grades.* Available for practically any job.**

Try Them Out. **For folder, or trial order,**

WRITE! WIRE! PHONE!

Now in use from Coast to Coast

Sinclair & Valentine Co.

INKS MAIN OFFICE AND FACTORY

611 West 129th Street, New York, N. Y.

Albany	Cleveland	Kansas City	New Orleans
Baltimore	Dallas	Los Angeles	Philadelphia
Birmingham	Dayton	Manilla	San Francisco
Boston	Havana	Nashville	Seattle
Chicago	Jacksonville	New Haven	

FORM-O-SCORCH

YOUR MATS FOR MORE EFFICIENT PRODUCTION . . .

FORM-O-SCORCH

offers CORRECT FORMING AND UNIFORM DRYING OF STEREO MATS

Available for

FLAT, CURVED and TUBULAR MATRIX PREPARATION

Write for Bulletin

AMERICAN PUBLISHERS SUPPLY

Box 131 **West Lynn, Mass.**

CUT RACK

By JOHN W. KNOX*

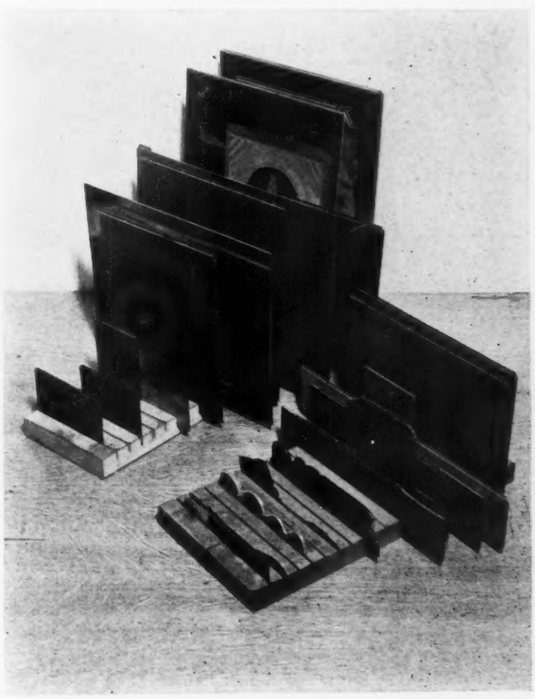
**Superintendent, The Caxton Company, Cleveland, Ohio*

A SIMPLE means for facilitating the handling of unmounted catalog, folder or book cuts in our plant is shown in the accompanying illustration. The rack consists of a wooden block approx. 6 in. by 18 in. by 1 in. thick, cut preferably from hardwood. At 1 in. intervals on the upper surface of the block, slots approx. 5/8 in. deep and wide enough to permit the insertion of the cuts edgewise are cut on a composing room saw.

These blocks or storage racks are useful when it is necessary to collect unmounted cuts from the cut file room for a printing job. They are used in our plant for storage in the engraving department; for transporting cuts to the printing department, and for storage in the printing department until the cuts are put into the forms.

The racks prevent injury to or defacement of cuts throughout the entire handling procedure. Cuts stored in this manner can be quickly sorted or inspected because the face is always exposed to view.

The same rack, with the slots modified for reception of stereo shell casts or patent base plates, is also useful.



Slotted, hardwood block used in Cleveland's The Caxton Company for transporting cuts to and from composing room.

"TRU-MOLD"
CORK MOLDING BLANKET

TRUER TYPE BOWLS + TRUER, BLACKER SOLIDS

A finer plate can be produced by using Eastern's new "TRU-MOLD" cork molding blanket. It is scientifically compounded for the perfect balance between density and resiliency, giving full depth type bowls and clean, even solids.

"Place a trial order today"

"FLECTO"
GUMMED BACKING FELT

RECOMMENDED BY STEREOTYPERS EVERYWHERE

Coated with glue that will not slip or leave the matrix under heat. Tears easily. Made in gauges .025, .030 and .035—Sheets 18 in. by 24 in., and gauges .040, .045 and .050—Sheets 18 in. by 22 in. Cut into strips without charge.

"Free samples on request"

EASTERN NEWSPAPER SUPPLY
9603 NORTHERN BLVD. CORONA, N. Y.

EQUIPMENT SALES

December Kluge Installations

12x18 Kluge Automatic Presses — Uptown Printing Co., Minneapolis, Minn.; Korn Printing Co., New York; Deadwood (S. D.) *Pioneer Times*, Flash Service, New York; Swinbarne-Chenvert Press, Saint Paul, Minn.; Simmons Press, New Orleans, La.; Pittsburgh Plate Glass Co., Milwaukee, Wis.; Groves (Tex.) *Prognosticator*; Louis A. Varisco Co., Milwaukee, Wis.; Messengers Pub. Co., Houston, Tex.; John H. Ashbaugh Printing, Eau Claire, Wis.; Pipes Printing Co., Beaumont, Tex.; Berg Printing Company, Rockford Ill.; McCray Printing Co., Tulsa, Okla.; Linden Bros., Rockford, Ill.; Bennett Prtg. & Stamp Co., Atlanta, Ga.; The Economy Press, Kalamazoo, Mich.; Quality Printing Co., St. Petersburg, Fla.; Merrill Printing Co., East St. Louis, Ill.; Clay Printing Co., Winston-Salem, N. C.; The Mail Printing Co., Vandalia, Mo.; Farrell Printing Co., Columbia, S. C.; Gaertner Press, Elizabeth, N. J.; Thor L. Erickson & C. E. Andrews, Jr., San Francisco; Shampanore Press, Little Silver, N. J.; Superior Press, Oakland, Calif.; W. H. Bierds & Son, Inc., Brooklyn, N. Y., Sheubrooks Printing Co., Baltimore, Md.; The Borden Company, New York; Hambleton Prtg. & Pub. Co., Wilmington, Del.; Gronachan Env. & Tag Co., Buffalo, N. Y.; Weigel & Barber, Inc., Johnstown, Pa.; The Village Press, Lynnfield, Mass.; United States Envelope Co., Hartford, Conn.; Board of Education, Duluth, Minn.

12x18 Kluge Feeders — Juneau County (Wis.) *Chronicle*; Quality Prtg. Service, Covington, Ky.; Star-Herald Printing Co., Scotts Bluff, Neb.; Isler-Tompsett Litho. Co., St. Louis, Mo.

12x18 Kluge Combination Die-Cutting & Printing Presses — Universal Label Company, Birmingham, Ala.; Smithcraft Company, Columbus Junction, Ia.

10x15 Kluge Automatic Presses — Landfield Adv. & Prtg. Co., Houston, Tex.; Baker Printing Co., Boston, Mass.; O. K. Press, Inc., Chicago, Ill.; Le Messager, Lewiston, Me.; Afana Printing Co., Long Beach, Cal.; Oaks Ticket Co., Boston, Mass.; Havlis Press, Seymour, Conn.

10x15 Kluge Feeders — Memphis Commercial Co., Memphis, Tenn.

4 Roller Kluge Automatic Presses —Nixon Printing Co., Montgomery, Ala.; J. W. Jung Seed Co., Randolph, Wis.; Lions Printing Co., New York; Scott Printing House, Detroit, Mich.

Kluge Open Presses — St. Mary Journal, Franklin, La.; Weather Bureau Office, Topeka, Kas.; Review Publishing Co., St. Paul, Minn.

Linotype Installations

Four Blue Streak Linotypes have been installed by the Kansas City (Mo.) *Star*.

One or more Linotypes have been installed by the Chief Printing Company, Chicago; Kutztown (Pa.) *Patriot*; Owensboro (Ky.) *Messenger* and the *Inquirer*; Vallejo (Calif.) *Evening News*; *Centre Daily Times*, State College, Pa.; *State Journal*, Lansing, Mich.; Clay Printing Company, Lexington, Ky.; Terry Linotyping Company, New York City; University of Washington Press, Seattle, Wash.; Hudson (N. Y.) *Register*; Vandalia (Ill.) *Leader*; Stafford-Lowdon Company, Fort Worth, Tex.; Syracuse (N. Y.) *Post-Standard*; Superior Printing Company, Bartlesville, Okla.; Manford Berlin, New York City; West Memphis (Ark.) *News*; Poughkeepsie (N. Y.) *Eagle-News* and the *Star* and *Enterprise*; Charleston (W. Va.) *Daily Mail*; Boyd (Wis.) *Transcript*; The Robersonian, Lumberton, N. C.; Keith Press, Knoxville, Tenn.; Kulm (N. D.) *Messenger*; Temiskaming Speaker, New Liskeard, Ont.; La Harpe (Ill.) *Quill*; Rock Island (Ill.) *Argus*; Arroyo Press, Austin, Tex.; Direct Press, Inc., Milwaukee, Wis.; Seminole (Tex.) *Sentinel*; Floyd County Times, Prestonsburg, Ky.; Plattsburg (N. Y.) *Daily Press*; Johnston and Bordewyk, Inc., Rapid City, S. D.; Passaic (N. J.) *Herald-News*; United States Navy Yard, Charleston, S. C.; Service Typesetters, Kansas City, Kan.; Humboldt (S. D.) *Journal*; Lancaster (Pa.) *News*, *New Era*, and the *Intelligencer-Journal*; Volunteer State Life Insurance Company, Chattanooga, Tenn.; Williams Printing Company, Richmond, Va.; Bemidji (Minn.) *Pioneer* and the *Sentinel*.

Install Ludlow Equipment

Ludlows have been installed recently by the Sacramento (Calif.) *Bee*, Davenport (Ia.) *Democrat*, Montreal (Que.-Can.) *Gazette*, Mitchell (S. D.) *Republic*, Marion (Ind.) *Chronicle*, Centreville (Md.) *Queen Anne's Record & Observer*, Cadillac (Mich.) *Evening News*, Dover (N. J.) *Advance*, Ottumwa (Ia.) *Daily Courier*, Grand Rapids (Mich.) *Herald*, Vicksburg (Miss.) *Post & Herald*, Shelby (N. C.) *Star*, Ottawa (Ont.-Can.) *Le Droit*, Waynesboro (Pa.) *Record-Herald*, Brattleboro (Vt.) *Reformer*, Saugus (Mass.) *Herald*, Concord (N. C.) *Tribune*, Elizabeth City (N. C.) *Advance*, Ironwood (Mich.) *Daily Globe*, Clarksville (Tenn.) *Daily Star*, and by the Bristol (Va.) *Herald-Courier & News Bulletin*.

Klean-O-Mat Installations

Recent installations of the Klean-O-Mat Process include the following dailies: Huntington (W. Va.) *Herald-Dispatch & Advertiser*, 18 machine plant; Lexington (Ky.) *Herald & Leader*, 11 machine plant; Brockton (Mass.) *Enterprise & Times*, 20 machine plant; Clarksburg (W. Va.) *Exponent & Telegram*, 11 machine plant; Philadelphia (Pa.) *Daily News*, 14 machine plant; St. Petersburg (Fla.) *Times*, 14 machine plant; St. Petersburg (Fla.) *Independent*, 11 machine plant; Charleston (W. Va.) *Gazette*, 12 machine plant; Fitchburg (Mass.) *Sentinel*, 9 machine plant; Passaic (N. J.) *Herald-News*, 18 machine plant.

Install Elrod Equipment

Elrod lead, slug, rule and base casters have been installed recently by the Kansas City (Mo.) *Journal*, Portland (Ore.) *Oregonian*, Pawtucket (R. I.) *Times*, Oakland (Calif.) *Tribune*, Buffalo (N. Y.) *Courier-Express*, Pocatello (Idaho) *Tribune-Journal*, Bayonne (N. J.) *Times-News*, Birmingham (Ala.) *News & Age-Herald*, Texarkana (Tex.) *Gazette-News*, El Dorado (Ark.) *News-Times*, Vicksburg (Miss.) *Post & Herald*, Sacramento (Calif.) *Bee*, Zanesville (O.) *Daily News*, Littleton (N. H.) *Courier*, Fremont (O.) *News-Messenger*, Waynesboro (Pa.) *Record-Herald*, Concord (N. C.) *Tribune*, Holyoke (Mass.) *Transcript-Telegram*, Flint (Mich.) *News-Advertiser*, Albuquerque (N. M.) *Journal*, and by the Cairo (Ill.) *Citizen*.

Monotype Swing Bold

All sizes of Monotype's new Swing Bold No. 217 are presented in a four-page folder. Several specimens showing how to use it are included in the 2-color and black folder. Copies available from Lanston Monotype Machine Co.

Intertype Futura

Intertype Corporation, it is stated, continues to cut more sizes and weights of its authentic Futura. The latest cuttings are shown here. In addition several sizes of Rex have been cut in combination with Franklin Gothic and Rex Italic. Rex is Intertype's latest news and book face.

THIS PARAGRAPH set in the ten point size of Intertype Futura Light duplexed with *Futura Light Oblique* 1234567890
10 Point Futura Light with Oblique

THIS PARAGRAPH is set in the eight point size of Intertype Futura Light and is duplexed with its companion *Futura Light Oblique* 1234
8 Point Futura Light with Oblique

THIS PARAGRAPH is set in the five point size of Intertype Rex with **Franklin Gothic** 123456
5 Point Rex with Franklin Gothic

THIS PARAGRAPH is set in the four point Intertype Rex and is duplexed with **Franklin Gothic** 12345678
4 Point Rex with Franklin Gothic

THIS PARAGRAPH is set in the 4 point size of Intertype Century Expanded and is *duplexed with Italic* 1234567890
4 Point Century Expanded with Italic

Dates Set

The days extending from June 30 to July 3, inclusive, have been tentatively set for the Nineteenth Annual Conference on Printing Education to be held at the Rochester Athenaeum and Mechanics Institute, Rochester, New York. The program is being planned to solve many individual teachers' problems of instruction, promotion, and printing production in the school shop. The Department of Publishing and Printing of the Institute, one of the best equipped in the country, will demonstrate the latest equipment to visitors. A celebration of the 500th Anniversary of Movable Type will be the theme at the annual banquet.

Wanted

LUDLOW MATS FOR CASH—Young Engineering Co., 2747 North Janssen Ave., Chicago, Ill.

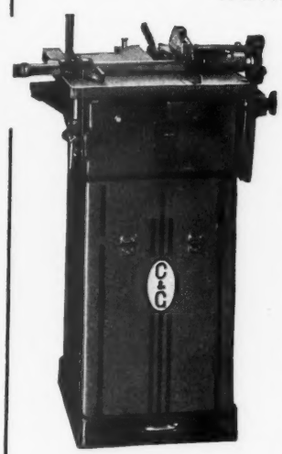
THE P-DOUBLE-E INDEX will tell you where to find it

CONFUCIUS SAY

Man who buys a C & G Model 3-A Saw Trimmer uses good judgement.

CONFUCIUS ALSO SAY

Man who uses good judgement very seldom make error.



No. 3-A Saw Trimmer

You will not make an error if you investigate the many outstanding features of the Model 3-A Saw Trimmer.

★ *Write for descriptive literature and list of users*

There is a C&G Model 3-A Saw Trimmer in your neighborhood.

MILWAUKEE SAW TRIMMER CORP.

612 East Clybourn Street Milwaukee, Wisconsin

Linotype—Intertype

replacement parts

New Molds, universal and adv. fig. style	$ 55.00	Back Knives	$ 2.00
Back Jaws	10.00	Side Knives, set	13.00
Gross Assorted Screws	1.50	Plungers	4.00
Spacebands	.75	Dis. Box Bars	4.50
Liners, solid style	1.00	Sec. El. Bars	6.40
Rubber Rolls for Keyboard	.60	Vise Locking Screws	3.00
Border Blocks	4.00	Assembler Stars	.09
Transfer Fingers, Improved	.50	Assembler Fibre Buffers	.10
		Watch Oil for Keyboard Cams	.50
		First El. Spring Pawls	.07
		Knife Wiper Flags	.05

REBUILT MATERIAL

Rebuilt Molds (uni. and adv. fig.) ($10 allowance for old)	$ 35.00	Rebuilt Margach Type Feeders	$ 55.00
Rebuilt Mold Disks ($5.00 allowance for old)	35.00	Rebuilt Back Jaws	5.50
Rebuilt Electric Pots	150.00	Rebuilt Sec. El. Bars	4.00
Rebuilt Monomelts	150.00	Rebuilt Dis. Box Bars	2.50
Rebuilt Gas Pots	85.00	Reground Back Knives	1.25
		Reground Side Knives, set	10.00

REPAIRS

Rebuilding Magazines	$25-40	Regrinding Side Knives, set	$ 2.50
Rebuilding uni. and adv. fig. molds	25.00	Rebuilding Back Jaws	4.50
Regrinding Back Knives	.75	Rebuilding Sec. El. Bars	3.50
		Rebuilding Dis. Bx. Bars	1.75

FONTS

Over 300 always in stock. Write for list and proofs. We buy, sell and trade in all kinds of Linotype and Intertype parts.

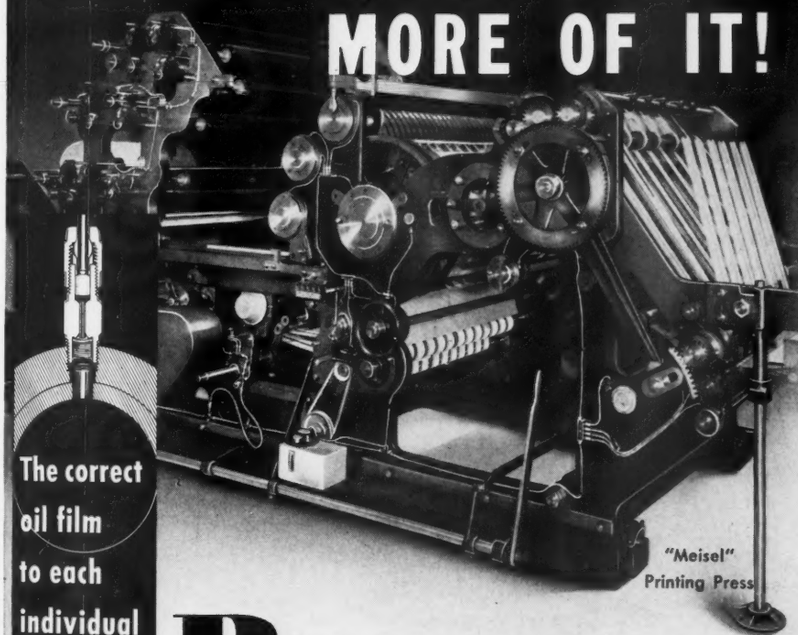
Free Printer's Apron

With cash order of $10.00 or more mentioning this advertisement and offer.

MONTGOMERY & BACON

TOWANDA, PENNA.

BETTER WORK *and* MORE OF IT!



"Meisel" Printing Press

The correct oil film to each individual bearing... *automatically*

BIJUR

AUTOMATICALLY *Correct* LUBRICATION

● No time out for oiling! Adds three weeks of productive running-time per year. Fewer shutdowns . . . less maintenance. Bijur automatic lubricating equipment increases machine life and efficiency; reduces operating cost. A "closed" system, with no drip or drainage, it prevents spoilage of work from oil contact, eliminates oil waste and decreases accident hazards. Specify your new machines BIJUR-EQUIPPED . . . insure quality plus quantity output—with lower production cost. Protect your investment.

BIJUR LUBRICATING CORPORATION

LONG ISLAND CITY NEW YORK

1108

ANALYSIS

(*Continued from Page 2*)

tions to better positions in other plants were made strictly on this basis. In plants in which he worked Bill instituted a reward system for outstanding performance. While he had followed the findings of psychology as applied to production, he was not greatly impressed since as, he said, it is a comparatively new science not as yet thoroughly tried and tested, too many exceptions that test the rule. He had an open mind regarding the findings of so-called efficiency experts, always through his consummate mastery of his trade keeping a few steps in advance of the experts and production standards, so-called. As a master organizer and coordinator and consultant extraordinary, Bill scanned the findings of the theorists and record-keepers and based his system on facts.

We have alluded to Bill's cleverness and resourcefulness. In one large plant where quality supreme was required with production extraordinary, Bill found that cleaner printing and faster operation of the presses were necessary. He soon traced "filling" of the bowls of small type as being due to two basic causes in the shop under review: first, ink unsuitable to the uncoated book papers printed, and to dust and dirt on the paper and press. In the attempt to suit the ink to the uncoated book papers, it had been made too soft and not short enough. The ink was soon corrected. In order to keep the press and paper as free as possible from dirt and dust, Bill had air-line pipes installed in connection with the non-offset spray system which made possible very prompt vacuum cleaning of the brush and press. This was made a routine performance every eight hours and vacuum sheet cleaners were installed on the presses to clean the paper.

It so happened that the firm's best contract was with a leading publisher. The quality standard required that the work be run on flatbed presses. There was never a kick on the quality but the time came when, with seductive price offerings from competing printing plants, it became necessary to go over the cost sheets to ascertain if any reduction in production cost was possible in order to hold the contract. The survey revealed just one possible but not probable saving, which could be made if the large flatbed presses could be operated at a faster rate. The publisher was furnishing the plates, both printing houses were buying paper on a carload basis, other costs were equal. It all simmered down to the practicability of speeding up the large flatbeds, which through careful oiling, cleaning and operation were allowed twenty years, (forty-hour weeks), for depreciation, running at the top speed recommended by the manufacturer.

The only "out" was to run the heavy flatbeds faster which, investigation showed, was being done in the competing plant. The presses had been speeded up beyond the safety limit with the deliberate intention of wearing them out prematurely and then disposing of them.

Bill met the issue by increasing the air compression on the reverse and by inserting a thickness of tarred roofing paper between the planks and the base. The higher speeds thus were possible without premature wear and without the presses walking about the room.

As might be expected, with a broad experience, Bill was not slow to try new accessories and supplies even when not indorsed. The addition of glycerin to dual tone inks was never recommended, but on one occasion Bill had found a lot of this ink unworkable because it was too old and dry. Contrary to all practice and theory, he added just enough glycerin to revive the old ink. It worked satisfactorily. He tried many unorthodox procedures — sometimes his experiments worked—sometimes not.

While slow to wrath and patient to a fault, Bill despised the sarcastic individual who loves to hear his own roar and picks on subordinates. His old-time associates recall one occasion when, while still a journeyman, he walked in on a new job. The sarcastic foreman asked Bill what his first name was. "You can call me Bill", he replied. "Bill? That's a horse's name", shot back the foreman,

Have you tried the New

AIR SEALED CORK MOLDER

This new blanket is scientifically treated to give improved results and stand up longer

TRY A SET TODAY

•

SUPERIOR GLUTEX

GUMMED PACKING FELT

Still the leading quality in mat backing Superior Glutex is used more extensively than ever. The highest quality felt available is used with a scientifically prepared coating that sticks quickly and permanently.

Write for Samples

AMERICAN PUBLISHERS SUPPLY

Box 131 WEST LYNN, MASS.

The flying wedge's last stand...

That was in 1904, when public opinion aroused by football casualties, forced a reform. It opened up the game, increased its speed and its patronage immeasurably. Another innovation of the same period was the Kimble Motor, built especially for printing presses. Its benefits, too, have expanded throughout the years . . . in speedier presses and increased patronage of the Graphic Arts. KIMBLE ELECTRIC CO., 2011 W. Hastings St., Chicago, Ill.

Kimble MOTORS

Distributed by AMERICAN TYPE FOUNDERS

Branches and Sales Agents in Twenty-Five Cities

From Any Angle —
TINGUE PRINTING PRESS BLANKETS
— Are Superior

Stocked in gauges listed above.
Samples and detailed prices upon request.

TINGUE, BROWN & CO.
112-120 East 23rd St NEW YORK N.Y.
1227 Wabash Ave CHICAGO ILL.
723 East Washington Blvd LOS ANGELES CAL.

ROTARY PRESSES

Equipped with
WETTER
Number Better

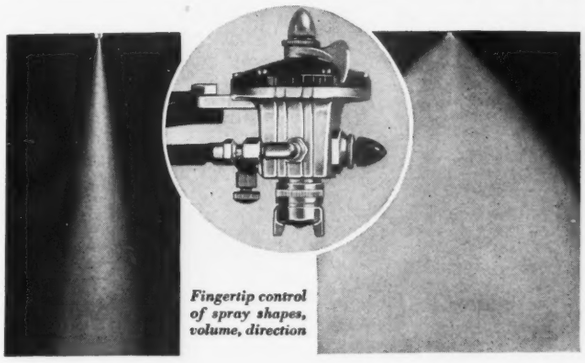
Locking time is reduced and fine adjustment is facilitated by exclusive features of Wetter Rotary Numbering Machines. Interchangeable, too, for right angle or parallel operation. Deeply engraved figures, accurately turned to cylinder sizes, insure better work.

WETTER NUMBERING MACHINE CO.
246 LOGAN STREET, BROOKLYN, NEW YORK

Priced Lower
than ever before!

. . . new ATF Gun *operates by Air!*

With no electrical parts and operating *entirely* by air, the new ATF Diafram Gun costs less to make . . . we pass the savings along to you! Never in ATF history has any ATF Gun been priced so low or operated with greater economy or simplicity. Simple fingertip adjustments make it easy to control the amount, duration and size of spray, in *any* direction. You get positive protection against offsetting anywhere on the sheet. The new ATF Diafram Gun is light and compact, easily moved from press to press and takes up less floor space. Whether your plant is offset or letterpress, now is the time to buy ATF Diafram Guns for all-around economy! Ask your ATF Salesman today.



Fingertip control of spray shapes, volume, direction

American Type Founders

200 ELMORA AVENUE • ELIZABETH, N. J.

Branches and Agents in Principal Cities

known to his intimates as Al. "Perhaps", drawled Bill, "and I have known mules named Al". "Fresh, eh? You need salting down," continued the foreman. "It would take more than an old lemon squeezer like you to salt me down," replied Bill. At this point, Al suddenly decided he had business elsewhere. Believe it or not, Al and Bill got along very well after this brusque interchange. Bill himself never indulged in sarcasm, having found it often rankled, causing an unhappy reaction.

Broadly, Bill's system consisted of knowing his stuff, organizing the working force to best advantage, putting himself in the other fellow's place, whether below or above him, winning his cooperation and loyalty by treating him with respect and kindness and spurring all members of the force to their best efforts, not by threat of layoff in slack period, or other crude methods of the past, but with a reward based on actual performance. As Bill put it, "Every thing of any value except air has its price. For exceptional performance the shrewd business executive is willing to pay 'over the scale' for actual performance. I have always found this to be true."

Elected President

John Donald, Production Manager of King Features Syndicate, Inc., New York, has been elected president of the New York Club of Printing House Craftsmen. He functioned as entertainment chairman of the XXth Craftsmen's International Convention in New York and was advanced from the club's first vice presidency.

PRECISION

(*Continued from Page 25*)

compensated for by a spot-up sheet hung deep in the cylinder's packing. These spot-up sheets are renewed quarterly.

The result is the printing of extremely accurate forms on extremely accurate presses but this tells only one-half the story. The materials used in letterpress printing—paper, ink rollers and wood mounts for photoengravings are highly hydroscopic, and change in size with changes in the temperature and humidity of the surrounding air. From the beginning Waverly engineers realized that no real precision was possible so long as the air in the plant was allowed to vary according to outside conditions of temperature and humidity. It was for this reason that every cubic inch of the plant is completely air-conditioned so that a constant temperature and relative humidity is maintained twenty-four hours a day, three hundred and sixty-five days a year.

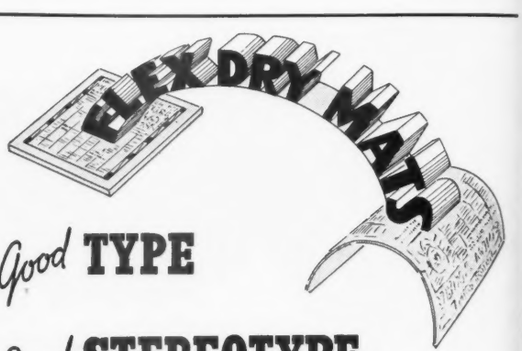
A discussion of the air conditioning plant is beyond the scope of this article, but suffice to say that it was installed by the York Ice Machinery Corporation, and that it is guaranteed to maintain temperatures with a variation not more than plus or minus 2 deg., and relative humidity with a variation not to exceed 3%. In actual practice it performs better than the guarantee.

The precision program of the Waverly Press has virtually doubled the efficiency of the pressroom as demonstrated by the pressmen's production records. It has therefore made it possible to produce a much greater volume of work without additional investment in cylinder presses or floor space. The quality of the work has, at the same time, been substantially improved, impression is uniform, less wear is evident on type and cuts, and very close register is obtained without the necessity of making moves on press. It may therefore be stated accurately that precision methods have gone a long way towards the elimination of press makeready and have proved themselves to be a very effective means of reducing the cost and improving the quality of letterpress printing.

Offset Printed Daily

Published for the first time on December 24, the *Opelousas* (Ia.) *Daily World* was introduced to its readers. The first issue consisted of 38 pages in four sections, printed partly in color. Composition is executed by a Model 8 Linotype and Varityper. Plate-making equipment includes a 24 in. Valette camera. Presswork is done on a 17 in. by 22 in. Webendorfer press. The paper will be published daily except Sunday and Monday.

LUBRICATED FOR LIFE
LARGE OR SMALL
There is a PULSOLATOR system for automatically lubricating every type and size of printing press.
Customers write that Pulsolator
"Increases press productive time 3.3%"
and
"Reduces oil consumption 60%"
At your request our engineer will call and demonstrate how Pulsolator obtains these savings.
Write for Bulletin B-30
RIVETT LATHE & GRINDER INC.
Brighton, Boston, Mass.
Automatic oil lubrication
BLANCHARD PULSOLATOR



Good TYPE

Good STEREOTYPE

Are you *sure* that your printing plates retain all the quality of your type composition and halftones? Are you *sure* that there are no losses in the gap between your type and your stereotype?

Maybe you think that dry mats are pretty much all alike. If you do, please send for samples of FLEX all-American dry mats. You'll be surprised at the difference that this different dry mat can make.

When writing, please specify gauge, shrink, and type of casting equipment used.

FLEXIDEAL
DRY MAT CORPORATION
21 West Street
New York

FLEX
All-American
DRY MATS

KILL STATIC PRESS

with a WESTERN STATIC ELIMINATOR

An INEXPENSIVE, Scientific Proven Device, Easy to Attach to All Types of Presses

10 Days Free Trial — No Obligation

Write for Folder

Western Brush Co., Inc., Dept. PE, 31 So. Market St., Chicago, Ill.

DUPLEX PRESSES

Semi-Cylindrical • Unitubular
Tubular • High Speed Flat Bed
Flat Bed • Stereo Machinery

The Duplex Printing Press Co.
Battle Creek, Mich.

SAFETY·RELIABILITY·ECONOMY

CLINE
PRESS DRIVES
and
CONTROL
Reels, Tensions and Pasters...

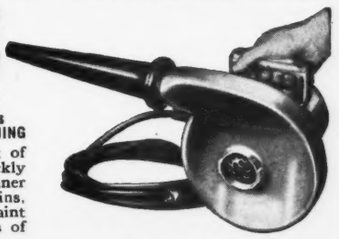
CLINE SYSTEM

CLINE ELEC. MFG. CO.
Chicago: 211 West Wacker Drive
New York: 220 East 42nd Street
San Francisco: 1st Nat'l Bank Bldg.

A CLEAN Plant is a PROFITABLE Plant

Keep your Plant clean with BREUER'S BALL BEARING
TORNADO
CONVERTIBLE ELECTRIC
BLOWER Cleans EVERYTHING

Blows dust and dirt out of motors and machinery. Quickly convertible into suction cleaner for type cases, storage bins, floors, walls, etc. Sprays paint and insecticide. Hundreds of uses.



BREUER ELECTRIC MFG. CO.
5114 N. Ravenswood Ave. CHICAGO, ILL.

TAKE THE DUST OUT OF INDUSTRY with BREUER'S BALL BEARING **TORNADO** PORTABLE ELECTRIC BLOWER

Write for information and FREE TRIAL OFFER

GENERAL REPAIR OF LINOTYPE AND INTERTYPE MOLDS (ANY KIND, ANY SIZE). PARTS, ETC., SINCE 1912
Makers of Reid Magazine Racks, Etc.
WILLIAM REID & CO., 2271 Clybourn Ave., Chicago, Ill.

STOP OFFSET

Get your free copy of this new bulletin—"10 Ways to Avoid Offset." Valuable—practical—shows how to save money—improve presswork.

E. J. KELLY CO. 1807 No. Pitcher Street KALAMAZOO

FREE

KLEAN-O-MAT PROCESS

Quick, Efficient, Safe, Machine Method of Cleaning Matrices in the Magazines.

Write
KLEAN-O-MAT CORP.
60 East 42nd St. New York

WALLIN SAW TRIMMER

The ideal Composing Room Tool. Versatile, quick, handy. V track, easily sliding table. Ball-bearing Spindle. V belt drive. Worm gear table lift. 73 em Rapid Swivel gauge. Sure Grip Finger-Tip Lock Work Holder. **$195.00** f. o. b. Omaha. Ball-bearing table $15 extra. Old Miller Saws taken in part payment, $40 allowance.

WALLIN MFG. COMPANY
1122 Harney St. Omaha, Nebr.

FREE Circular on New Cabinet Model *Rouse* BAND SAW

See the No. 2 Rouse Band Saw for smaller plants.

H. B. ROUSE & CO.
2216 N. Wayne Ave., Chicago, Ill.

ATTENTION STEREOTYPERS

Hundreds of stereotypers are getting perfect molding and stereotype mats through the use of **Franklin Apex Combination Molder** and the **Franklin Klean-print Molding Blanket.** Write today and let us send you samples and complete information on these products.

RUSSELL PRODUCTS COMPANY
702 Harrison Building, 15th and Market Sts. Philadelphia, Pa.

NEWSPAPER PRESS AND EQUIPMENT

For sale by owner, Rebuilt Hoe X Pattern Sextuple Press with two Automatic McMullen, color ink fountains, Rubber Rollers, Electric Paper Hoist, D. C. Motors, Control Switch Board and complete stereotype equipment. Big bargain. For further details write The North American Press, 728 North Seventh Street, Milwaukee, Wis.

Squeegee for Autoplate Cooler

By CHARLES FREDERICKSON*

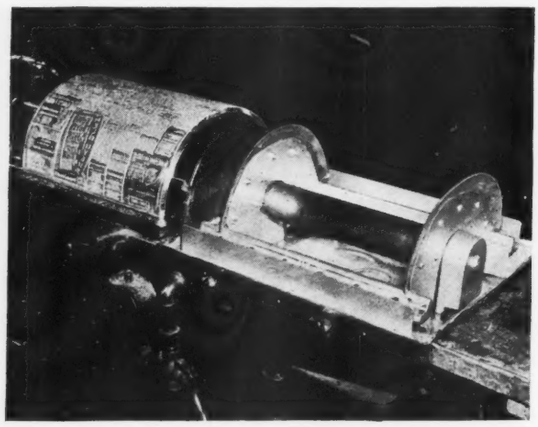
**Mechanical Superintendent, Westchester County Publishers, Inc., Yonkers, N. Y.*

WE have altered the cooling end of our Pony autoplates. It was the idea of George Kinner, Pressroom Foreman of the Yonkers (N. Y.) *Herald Statesman*, that by providing a rubber squeegee arrangement, no water would be permitted to be deposited on the face of the plate, and at the same time, water and chips would be removed from the inside surface of the plate. The metal cover supplied on the machine itself has been removed altogether.

The device is simple. As the stereotype plate reaches the cooling position, it slides over two semi-circular sections of resilient press blanket material. While in this position, the closing pieces prevent water flowing or splashing from underneath the plate while it is being cooled. While the plate is being passed over the circular plates, a wiping action occurs so that stray chips of metal are removed from the plate.

Plates for the squeegee are cut from sheet metal (two pieces at each end with the blanket material between) approx. 1½ in. smaller than the curvature of the rib side of the stereotype plate. Fitted between each pair of end plates are two thicknesses of rubber press blanket with the canvas sides back to back. The blanket sections are cut a little larger in radius than the rib side of the stereotype plates. The plate and blanket sections are fastened together preferably with brass or copper screws and nuts at spaced intervals corresponding to the curvature of the squeegee.

At either side of the cooler frame and extending a distance somewhat longer than the squeegee disks, is fastened a piece of iron strip, ⅛ in. thick by 3 in. high. The purpose of these strips is to prevent water splashing from under the edges of the stereotype plate onto the floor about the Autoplate.



View of Kinner squeegee device for application to cooler of an Autoplate machine for confining water in the machine and to prevent it splashing to floor.

Kelly School

The nineteenth of the series of Kelly schools sponsored by American Type Founders during the past two years was opened at the Bridgeport (Conn.) Trade School on January 29. Course lasts two weeks and gives instruction to Connecticut pressmen in the mechanics and operation of the Kelly "Clipper."

February Advertiser's Index

American Publishers Supply.....37, 40

American Type Founders.....4, 41
Agency: G. M. Basford Co., New York, N. Y.

Atlantic Zinc Works.....27

Bijur Lubricating Corporation.....39
Agency: G. E. Hatch, Advertising, New York, N. Y.

Booth, E. A., Rubber Company.....33

Brauer Electric Manufacturing Company.....43
Agency: Carl I. Henrikson, Advertising, Chicago, Ill.

Burgess Cellulose Company.....36
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.

Certified Dry Mat Corporation.....34
Agency: The H. P. Boynton Advertising Agency, Cleveland, Ohio.

Challenge Machinery Company, The.....29
Agency: Simmonds & Simmonds, Inc., Chicago, Ill.

Champion Paper & Fibre Company, The.....7

Cline Electric Manufacturing Company.....43
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.

Cottrell, C. B., & Sons Company.....19
Agency: Fred Glen Small, New York, N. Y.

Duplex Printing Press Company, The.....43

Eastern Newspaper Supply.....38

Edes Manufacturing Company, The.....35
Agency: Callaway Associates, Inc., Boston, Mass.

Flexideal Dry Mat Company.....42
Agency: Fred Glen Small, New York, N. Y.

Flint, Howard, Ink Company.....23

Hammond Machinery Builders, Inc......31, 33

Harris-Seybold-Potter Company.....8
Agency: Baker and Baker & Associates, Inc., Cleveland, Ohio.

Ideal Roller & Manufacturing Company.....21
Agency: Arthur E. Theobald, Advertising, Chicago, Ill.

Imperial Type Metal Company.....36

International Printing Ink Corporation.....24
Agency: T. J. Maloney, Inc., New York, N. Y.

Intertype Corporation.....Outside Back Cover
Agency: Fred Glen Small, New York, N. Y.

Kelly, E. J., Company.....43
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.

Kimble Electric Company.....40
Agency: Kirkgasser-Drew, Inc., Chicago, Ill.

Klean-O-Mat Corporation.....43

Linotype Parts Company.....34

Ludlow Typograph Company.....3

Matrix Contrast Corporation.....10
Agency: Fred Glen Small, New York, N. Y.

Mergenthaler Linotype Co.....Inside Front Cover
Agency: Kenyon & Eckhardt, Inc., New York, N. Y.

Milwaukee Saw Trimmer Corporation.....39

Montgomery & Bacon.....39

North American Press.....43

Reid, William, & Company.....43

Rivett Lathe & Grinder, Inc......42

Rouse, H. B., & Company.....43
Agency: Clifton Kirkpatrick, Chicago, Ill.

Russell Products Company.....43

Sinclair & Valentine Company.....37

Sta-Hi Corporation..... 1

Tingue Brown & Company.....41
Agency: The Overhague Advertising Agency, New York, N. Y.

Vandercook & Sons.....Inside Back Cover
Agency: Clifton Kirkpatrick, Chicago, Ill.

Vulcan Proofing Company.....9
Agency: Fred Glen Small, New York, N. Y.

Wallin Manufacturing Company.....43

Western Brush Company, Inc......43
Agency: Kuttner & Kuttner, Advertising, Chicago, Ill.

Wetter Numbering Machine Company.....41
Agency: O. S. Tyson & Company, Inc., New York, N. Y.

Wood Flong Corporation.....31
Agency: Kaye-St. George, Advertising, New York, N. Y.

Wood Newspaper Machinery Corporation.....6
Agency: Fred Glen Small, New York, N. Y.

Young Engineering Company.....38
Agency: William Hoffman & Associates, Chicago, Ill.

free Technical Information and Literature for *you*

Circle the numbers on the convenient postage-paid return card, supply your name, title and company address and mail — we do the rest. Manufacturer or supplier will send you information or literature about equipment or supplies advertised in this issue. This card saves you time and postage — Keep informed — No obligation.

Pressroom

1 INKS — Use the post-card to get color chart and selector of Flint inks. Offered by the Howard Flint ink Company.

2 ROLLERS — Ideal Roller Company offers details and facts on its line of synthetic press rollers.

3 COMPLETE INFORMATION on the Wood "Autopaster" is offered by the Wood Newspaper Machinery Corporation. They state: "The Autopaster splices without slowdown and with important reductions in newsprint waste."

4 PAPER — "To get the most out of your printing, investigate Champion Paper, the foundation for good printing." Champion Paper & Fibre Co., offers information on its complete line of papers.

5 AMERICAN TYPE FOUNDERS offers to send a press sheet and details on the Kelly Clipper. Use this service to check the advantages and features of this press. Fill out the coupon at the bottom of this page.

6 ROLLERS — "Vulcan Rollers are trouble-free, weather-proof, non swelling." Vulcan Proofing Company this month offers to send printed circulars on its rollers.

7 TWO - COLOR ROTARY PRESS — C. B. Cottrell & Sons Company will send you a booklet printed without makeready describing this press. Send for it. Use the coupon.

8 INK — Free information on Zephyr Blacks, "invaluable on rush jobs," will be forwarded to you by the Sinclair & Valentine Ink Company. Use this free service.

9 NUMBERING MACHINES — for flat bed and rotary presses are manufactured by the Wetter Numbering Machine Company. Full information and description offered.

10 PRINTING PRESS BLANKETS — Tingue, Brown & Company enumerate the various kinds of press blankets supplied by them. Prices and samples will be sent to you. No obligation.

11 SPECIAL INKS — Let IPI send you information, gratis, on its Pyroxalin Inks, used for foil and other special printing. Just mail the return card on this page.

12 NEW OFFSET GUN — "Simpler, easy to operate — has all the proven features of previous guns." ATF offers complete details.

13 OFFSET PRESS — "Let Harris performance increase your pressroom profits." Coupon brings you interesting reading on Offset Presses — Litho Chemicals.

14 LUBRICATION — "There is a Blanchard Pulsolator System for lubricating every type and size of printing Press." Bulletin B-30 will be mailed to you promptly.

Composing Room

15 INK DISTRIBUTOR — "Motor powered, makes it easy to ink hand rollers properly." Challenge Machinery will mail you circular and prices.

16 DETAILS on New Universal Intertype are offered by the Intertype Corporation. Check up on this new typesetting machine. No obligation, just fill out the card.

17 LUDWICK THERMOSTAT — "Simple, inexpensive control for your typesetting machine. Regulation to within 5 degrees." Let Linotype Parts Company send you information and details.

18 COMPOSING ROOM SAW — Hammond Machinery Builders states, "There is a Glider TrimO-saw to meet your specific need." Interested in getting details on this saw? Use the postage-paid return card. No obligation.

19 ONE-PIECE HEATING UNIT — "Heats up more quickly — easier to install — more durable." Linotype Parts Co. will send complete information.

20 MATRIX CONTRAST — "4% of the total outlay for operating line composing machines is saved by Black & White Matrix Contrast Service." Let Matrix Contrast Corporation show you proof of savings and information on pay-as-you-profit system.

21 REPLACEMENT PARTS for Linotypes and Intertypes. Use the postage-paid return card to get free catalog of parts, material and repairs. Offered by Montgomery and Bacon.

22 QUOINS — "Challenge Hi-Speed Quoins do the work of 5 to 8 ordinary quoins. Self-locking, cannot slip. Operated by one turn of key." Use coupon to get further data.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 2389 (SEC. 510 P. L. & R.) CLEVELAND, OHIO

PRINTING EQUIPMENT *Engineer*

1276 West 3rd Street

Cleveland, Ohio

Use this free service—Keep up to date on Equipment and Supplies

23 CUT CEMENT—"Booth's Zink Cut Cement holds with the grip of a Tiger's paw—saves time in the composing room." Let the E. A. Booth Rubber Company send you full information. Circle this number on the coupon.

24 MATRICE CLEANING—"Quick, efficient, safe machine method of cleaning matrices without removing from the magazine." Klean-O-Mat offers interesting booklet.

25 INFORMATION on C&G Saw Trimmers will gladly be mailed to you by Milwaukee Saw Trimmer Corporation.

26 MERGENTHALER LINOTYPE will be glad to forward you a copy of its booklet "Food Store Ads from the Linotype Keyboard." Coupon brings it to you.

27 PREMAKEREADY EQUIPMENT—Vandercook & Sons will mail you detailed circulars on Hacker & Vandercook equipment. Circle this number on the coupon. No obligation.

Stereotype Dept.

28 DRY MATS—"The face of Burgess 'Chrome' Mats has the property of permitting the casting metal to release readily, giving a fine stereo." Burgess will send booklet.

29 GUMMED BACKING FELT—"Flecto", states Eastern Newspaper Supply, "is successfully used on all types of dry mats." Free samples will gladly be sent.

30 DRY MATS—"Wood Flong offers sample lot of its dry mats. Wood Mats give white highlights—solid blacks—true halftones and middletones—deep molds—clean plates."

31 MOLDING BLANKET—American Publishers Supply states, "Air-sealed Cork Molder is scientifically treated to give improved results and stand up longer." Use the post-card to learn more about this blanket.

32 MAT CASTER—"EasyKaster '8'", states Hammond, "casts perfectly in every respect with the minimum of effort. Single column to full page mats. Equipped with or without 800 lb. valve-controlled melting pot." Hammond will gladly send you prices, terms and descriptive matter.

33 ROTARY SHAVER—Let the Sta-hi Corporation give you up-to-date information on its "Premier" Rotary Shaver.

34 DRY MAT—"For consistent readability, Certified clarity is a big help." Mail the card for further data. Gratis.

35 SAMPLES of "Superior Glutex" Gummed Backing Felt will be sent you by American Publishers Supply. Circle this number on the post-card.

36 MAT SCORCHER—American Publishers Supply states, "Form-O-Scorch offers correct forming and uniform drying of stereo mats. Available for flat, curved and tubular matrix preparation." Bulletin will be mailed to you.

37 CORK MOLDING BLANKET—"Tru-Mold," states Eastern Newspaper Supply, "Gives full depth type bowls and clean, even solids." Circle this number on the coupon for further interesting details.

38 DRY MAT—Flexideal Dry Mat Corporation offers free samples of Flex Dry Mats. Mention gauge, shrink, type of equipment you use. Fill out the coupon and mail. We do the rest.

Miscellaneous

39 ZINC—Edes states, "Roto-Grip produces a gauge that does not vary more than ½ of 1/000 inch. No grinding grooves—no long waves or bumps." Use the post-card to get free data.

40 LUBRICATION—Bijur offers latest information and circular on automatic lubrication for printing presses and machinery. Send for it.

41 PRINTING EQUIPMENT MOTORS—Kimble Electric describes the modern design of its motors, built especially for the printer, in a booklet which will be mailed to you without obligation. Coupon brings it.

42 ZINC—"Dependable plates mean better engravings and more work for letterpress." Atlantic Zinc Works will send you booklet entitled "Getting Down To Zinc Facts."

43 INFORMATION—On Imperial Type Metal Company's "Plus Plan" will be sent to you.

This coupon must be filled out completely in order to secure the literature or information you request. Circle only the numbers in which you are particularly interested.

PRINTING EQUIPMENT *Engineer* February
1275 West Third Street, Cleveland, Ohio.

Without obligation please have the manufacturers send me literature or information circled below. (These numbers correspond to numbers on descriptive paragraphs).

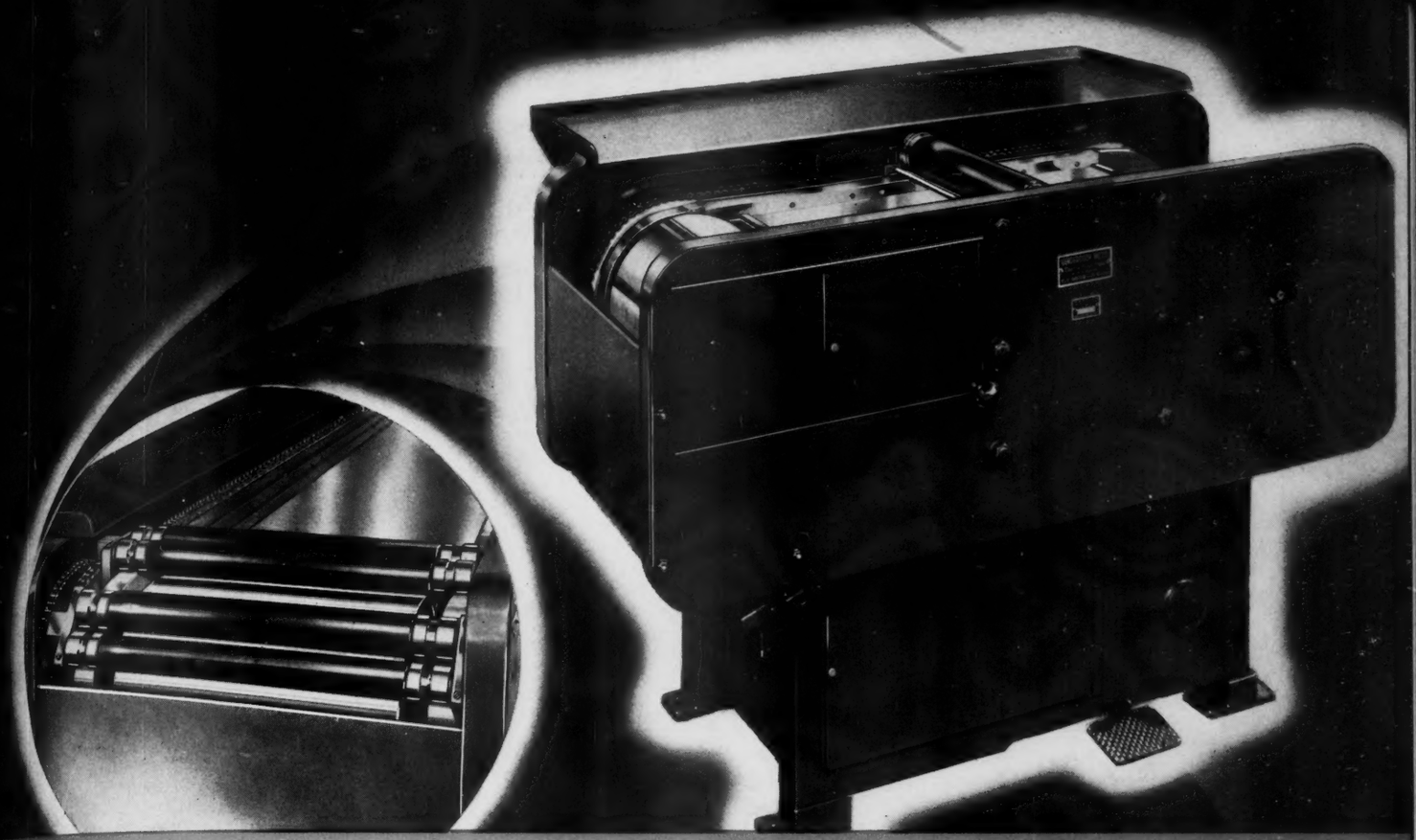
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42 43

PRINT YOUR NAME AND ADDRESS

NAME..... TITLE.....DEPT.....

FIRM NAME .....

STREET.....CITY.....STATE.....



U. S. GOVERNMENT PRINTING OFFICE USES 15

No. 23 VANDERCOOKS

The world's largest printing plant has established the VANDERCOOK Electric Proof Presses as the most efficient for proving straight matter and forms in galleys. No. 23 VANDERCOOK prints 40 GOOD PROOFS A MINUTE.

The Government Printing Office uses No. 23 VANDERCOOK Electric Proof Presses for proving type as it comes from the machines and for proving book and record pages in galleys. Good proofs are essential.

VANDERCOOK Electric Proof Presses afford an impression speed limited only by the capacity of the operator. Their construction is designed for fast and easy galley changes. They are definitely productive equipment. They will print a five column newspaper page or galleys up to 15"x27".

Complete description of the No. 23 VANDERCOOK Electric Proof Press and the No. 22, which takes a galley up to 10"x25", will be sent at your request.

VANDERCOOK & SONS

Main Office and Factory
904 North Kilpatrick Avenue, Chicago

Eastern Branch
214 East 45th Street, New York City

Canada: SEARS LIMITED, Toronto, Montreal, Winnipeg, Vancouver

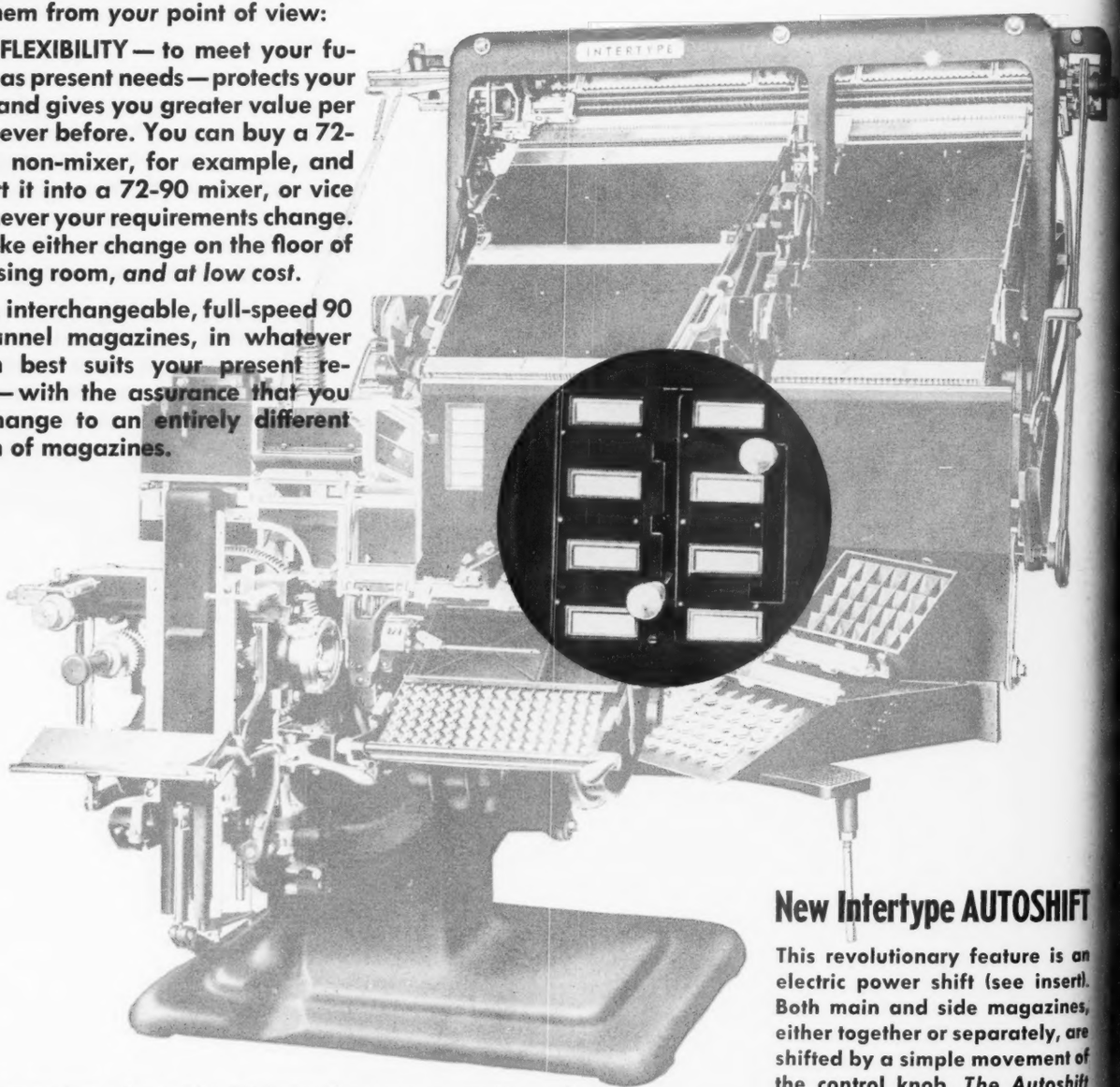
"What will it do for ME?"

That's what YOU want to know about the new Universal Intertype

BRAND NEW FEATURES — features you've never seen before — are embodied in the new **UNIVERSAL INTERTYPE.** But it's what those features mean to YOU, in dollars and cents, that really counts. So let's now take a look at them from *your* point of view:

COMPLETE FLEXIBILITY — to meet your future as well as present needs — protects your investment and gives you greater value per dollar than ever before. You can buy a 72-90 channel non-mixer, for example, and later convert it into a 72-90 mixer, or vice versa, whenever your requirements change. You can make either change on the floor of your composing room, *and at low cost.*

STANDARD, interchangeable, full-speed 90 and 72 channel magazines, in whatever combination best suits your present requirements — with the assurance that you can later change to an entirely different combination of magazines.



New Intertype AUTOSHIFT

This revolutionary feature is an electric power shift (see insert). Both main and side magazines, either together or separately, are shifted by a simple movement of the control knob. *The Autoshift saves time and effort and helps to get more work done.*

For more information about the Universal Intertype write to Intertype Corporation, 360 Furman Street, Brooklyn or the branch office nearest you

Step Ahead with the UNIVERSAL INTERTYPE

FUTURA DEMIBOLD AND VOGUE EXTRA BOLD FA